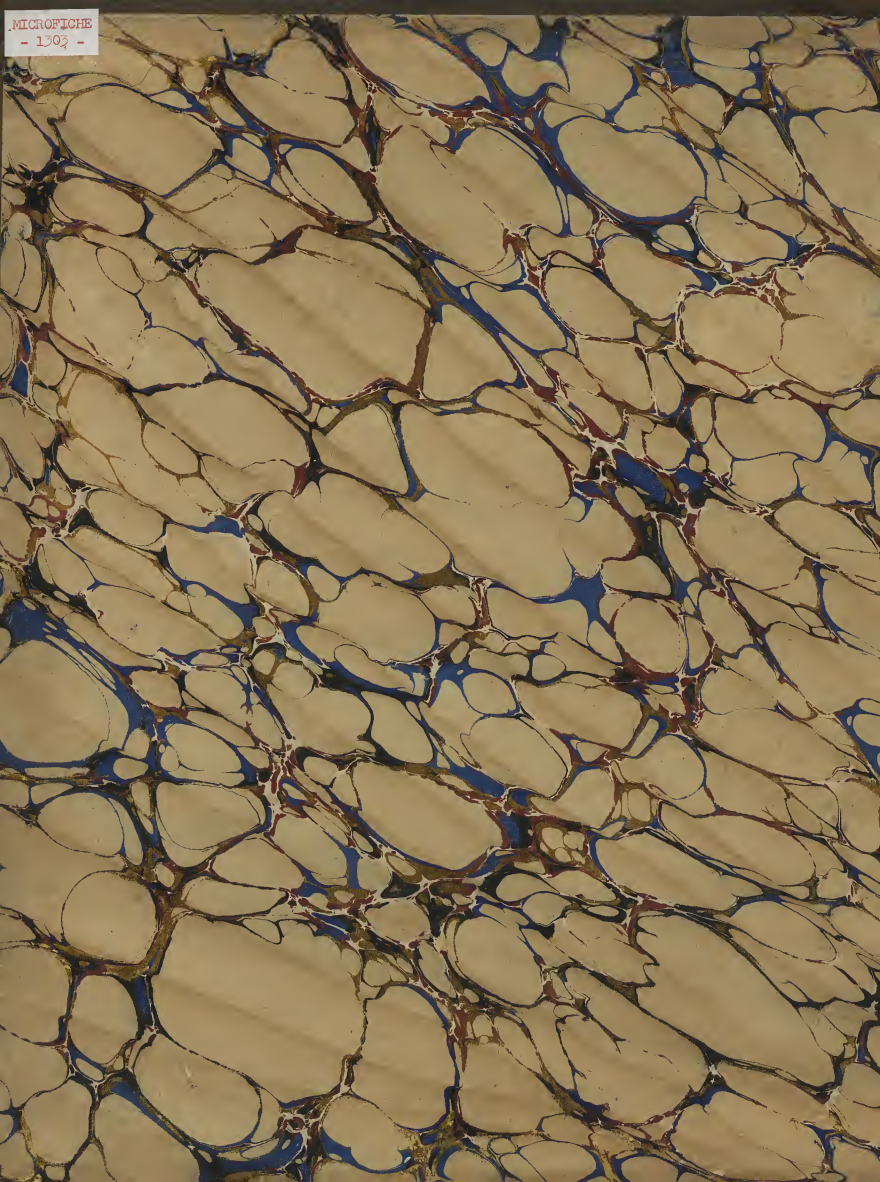
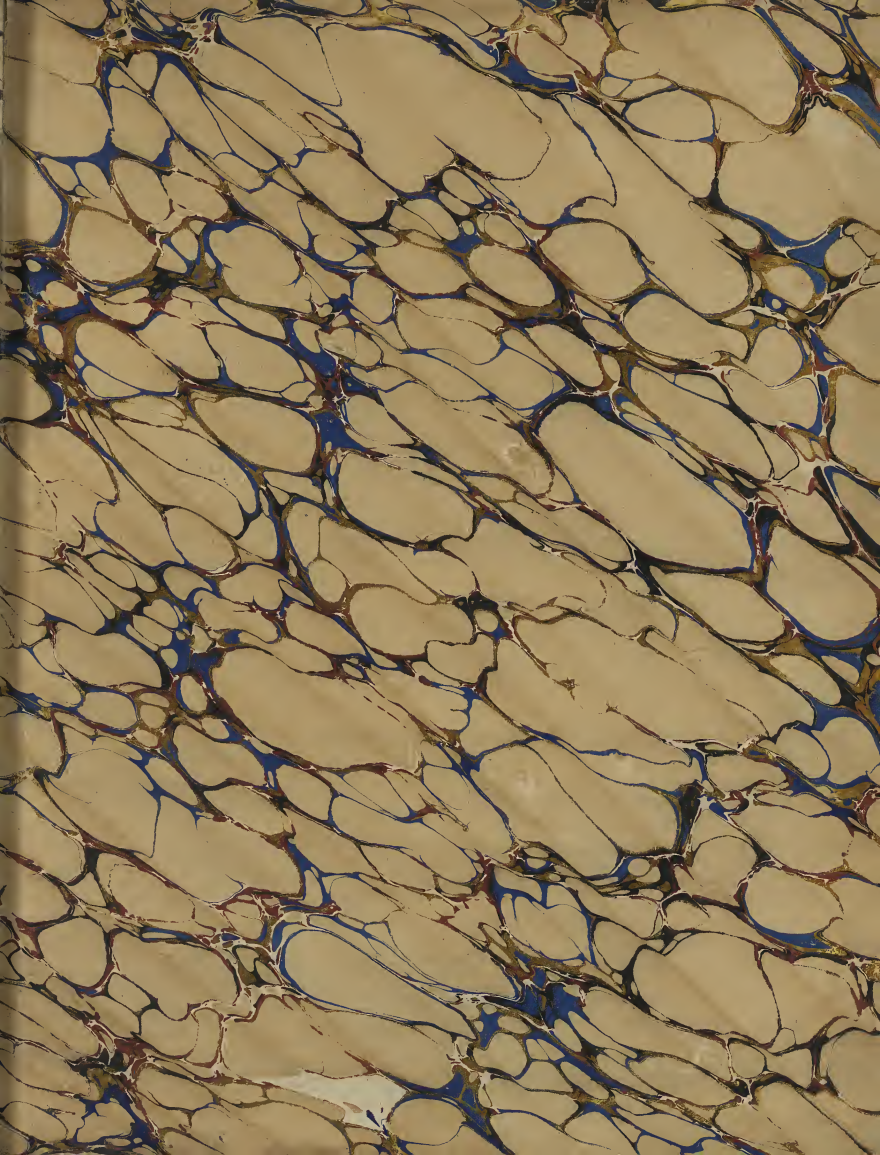


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REPORTS
OF
MEDICAL CASES.



REPORTS
OF
MEDICAL CASES,
SELECTED
WITH A VIEW OF ILLUSTRATING
THE SYMPTOMS AND CURE OF DISEASES
BY A REFERENCE TO
MORBID ANATOMY.

By RICHARD BRIGHT, M.D. F.R.S. &c.

LECTURER ON THE PRACTICE OF MEDICINE,

AND ONE OF THE PHYSICIANS TO

GUY'S HOSPITAL.



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1827.

L

TO

BENJAMIN HARRISON, Esq. F.A.S. &c.

TREASURER TO GUY'S HOSPITAL,

UNDER WHOSE SUPERINTENDENCE

THE BENEVOLENT VIEWS OF THE FOUNDER

HAVE BEEN INCALCULABLY EXTENDED,

AND TO

WILLIAM BABINGTON, M.D. F.R.S. &c.

ONE OF THE GOVERNORS OF GUY'S HOSPITAL,

THE EARLY AND ABLE SUPPORTER

OF THE MEDICAL SCHOOL OF THAT ESTABLISHMENT,

THIS VOLUME

IS MOST RESPECTFULLY DEDICATED

BY THEIR OBEDIENT AND FAITHFUL

FRIEND AND SERVANT

THE AUTHOR.

P R E F A C E.

THE volume which I now offer to the Profession may be considered as the commencement of a work to be continued at irregular periods, receiving additions upon the same plan, more or less frequently, according to the various circumstances which must necessarily influence such an undertaking. It is my wish, in thus recording a number of Cases, to render the labours of a large Hospital more permanently useful, by bringing together such facts as seem to throw light upon each other; and it is more particularly my wish to preserve and explain by faithful Engravings the recent appearances of those morbid changes of structure which have been connected with the symptoms or have influenced the treatment of the disease. Fortunately, I have not in the present day to explain the utility of Hospital Reports; nor am I now called upon to speak of the importance of that information which our profession derives from the study of Morbid Anatomy. To connect accurate and faithful observation after death with symptoms displayed during life, must be in some degree to forward the objects of our noble art: and the more extensive the observation, and the more close the connexion which can be traced, the more likely we are to discover the real analogy and dependence which exists, both between functional and organic disease, and between these, and the external symptoms which are alone submitted to our investigation during life.

Amongst the observations contained in this volume, there are some

of which I must bear the responsibility alone. Such are the statements and conjectures regarding the dependence of a peculiar class of Dropsies on disease and irritation of the Kidneys; such are some observations on peculiar changes in the structure of the liver; in the investigation of which however, as in many other cases, I have been kindly assisted by my friend DR. BOSTOCK; and such are the hints thrown out on the influence of the peculiar state of the mesenteric absorbents on the symptoms of Phthisis. There are other subjects, on the contrary, where I write with greater confidence, because borne out by the corresponding testimony of my cotemporaries. Such are the observations on different diseased conditions of the Lungs, many of which, if not all, have fallen under the notice of the diligent pathologists of France; and such are more particularly the observations on the diseased condition of the Mucous Membrane of the Intestines during Fever, a fact long known in particular cases, but never suspected to be so general till brought into view by the French physicians, and which has lately been illustrated in this country with great beauty by the pens of my able and assiduous friends DR. CHAMBERS and DR. HEWETT.

It will form no part of my plan in future volumes, any more than it has done in this, to lay before my readers a succession of striking novelties. Utility is my first object; and the work which I now commence will not, in theory at least, be thoroughly completed, until every disease which influences the natural structure, or originates in its derangements, has been connected with the corresponding organic lesion. Extensive as this undertaking may appear, I do not despair of its completion, to the utmost that the present state of our knowledge will admit. The few months which have been seriously engaged in the task, have enabled me not only to bring together the present volume, but to make large preparations for a second; and at all events

I have the satisfaction of feeling, that each volume, whether it finally form a part of an extensive work on Morbid Anatomy or not, will in the mean time be complete within itself, as a volume of Hospital Reports.

The execution of the Plates I can safely leave without one word of praise; and for the accuracy with which they represent the objects they are intended to illustrate, I cheerfully make myself responsible. The drawing and the engraving were executed under my own immediate superintendence; and in every case, except one, from the recent subject. I have carefully avoided having separate organs represented in the same plate, in order that if any one should hereafter wish to arrange them systematically, unconnected with the cases to which they belong, no difficulty might be experienced; and I trust that the fulness of the index will remove in some degree the inconvenience which necessarily arises, in the employment of a volume of Reports as a book of reference.

It is pleasing, and yet no easy task, to acknowledge the kindness of those many friends who in various ways have assisted me in this undertaking. I may truly say that I have met with the most cheerful compliance in all my wishes from every one connected with our establishment; but in a more particular manner I must confess my obligations to my immediate colleagues DR. CHOLMELEY and DR. BACK; not because they have been more willing to assist me than others, but because without their kind and ready permission I must have been deprived of many of the valuable facts and illustrations which have been largely drawn from cases under their care.

14, Bloomsbury Square, August 10th, 1827.

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SELECT REPORTS
OF
MEDICAL CASES.

CASES

ILLUSTRATIVE OF SOME OF THE APPEARANCES OBSERVABLE ON THE EXAMINATION OF DISEASES TERMINATING IN DROPSICAL EFFUSION.

THE morbid appearances which present themselves on the examination of those who have died with dropsical effusion, either into the large cavities of the body or into the cellular membrane, are exceedingly various: and it often becomes a matter of doubt how far these organic changes are to be regarded as originally causing or subsequently aiding the production of the effusion, and how far they are to be considered merely as the consequence either of the effusion or of some more general unhealthy state of the system. If it were possible to arrive at a perfect solution of these questions, we might hope to obtain the highest reward which can repay our labours,—an increased knowledge of the nature of the disease, and improvement in the means of its treatment.

One great cause of dropsical effusion appears to be obstructed circulation; and whatever either generally or locally prevents the return of the blood through the venous system, gives rise to effusions of serum more or less extensive. Thus, diseases of the heart which delay the passage of the blood in the venous system, give rise to general effusion, both into the cavities and into the cellular tissue. Obstructions to the circulation through the liver, by causing a delay in the passage of the blood through the veins

connected with the vena portæ, give rise to ascites. The pressure of tumours within the abdomen preventing the free passage of blood through the vena cava, gives rise to dropsical effusion into the cellular tissue of the lower extremities: and not unfrequently, the obliteration of particular veins from accidental pressure is the source of the most obstinate anasarous accumulation.

These great and tangible causes of hydropic swellings betray themselves obviously after death, and are often easily detected during life;—yet they include so great a variety of diseases, that they still present a very wide field for the observation of the Pathologist. The different diseases of the heart and of the lungs on which dropsy depends, and the various changes to which the liver is subject rendering it a cause of impediment to the circulation, are still open to much investigation. In fatal cases of dropsy we likewise find the peritoneum greatly diseased in various ways; frequently covered with an adventitious membrane more or less opaque, and capable of being stripped from the peritoneum, which is then left with its natural shining and glossy appearance. At other times the peritoneum is itself altered in structure, or is affected with tubercular or other diseases, presenting an accumulation of morbid growth.

There are other appearances to which I think too little attention has hitherto been paid. They are those evidences of organic change which occasionally present themselves in the structure of the KIDNEY; and which, whether they are to be considered as the cause of the dropsical effusion or as the consequence of some other disease, cannot be unimportant. Where those conditions of the kidney to which I allude have occurred, I have often found the dropsy connected with the secretion of albuminous urine, more or less coagulable on the application of heat. I have in general found that the liver has not in these cases betrayed any considerable marks of disease, either during life or on examination after death, though occasionally incipient disorganization of a peculiar kind has been traced in that organ. On the other hand, I have found that where the dropsy has depended on organic change in the liver, even in the most aggravated state of such change no diseased structure has generally been discovered in the kidneys, and the urine has not coagulated by heat. I have never yet examined the body of a patient dying with dropsy attended with coagulable urine, in whom some obvious derangement was not discovered in the kidneys.

Whether the morbid structure by which my attention was first directed to this subject, is to be considered as having in its incipient state given rise to an alteration in the secreting power, or whether the organic change be the consequence of a long continued morbid action, may admit of doubt: the more probable solution appears to be, that the altered action of the kidney is the result of the various hurtful causes influencing it through the medium of the stomach and the skin, thus deranging the healthy balance of the circulation, or producing a decidedly inflammatory state of the kidney itself:—that when this continues long, the structure of the kidney becomes permanently changed, either in accordance with, and in furtherance of, that morbid action; or by a deposit which is the consequence of the morbid action, but has no share in that arrangement of the vessels on which the morbid action depends.

The observations which I have made respecting the condition of the urine in dropsy, are in a great degree in accordance with what has been laid down by Dr. Blackall in his most valuable treatise.

Where anasarca has come on from exposure to cold, or from some accidental excess, I have in general found the urine to be coagulable by heat. The coagulation is in different degrees: it likewise differs somewhat in its character: most commonly when the urine has been exposed to the heat of a candle in a spoon, before it rises quite to the boiling point it becomes clouded, sometimes simply opalescent, at other times almost milky, beginning at the edges of the spoon and quickly meeting in the middle. In a short time the coagulating particles break up into a flocculent or a curdled form, and the quantity of this flocculent matter varies from a quantity scarcely perceptible floating in the fluid, to so much as converts the whole into the appearance of curdled milk. Sometimes it rises to the surface in the form of a fine scum, which still remains after the boiled fluid has completely cooled. There is another form of coagulable urine, which in my experience has been much more rare; when the urine on being exposed to heat assumes a gelatinous appearance, as if a certain quantity of isinglass had been dissolved in water. I have indeed met with this in one or two cases only.

During some part of the progress of these cases of anasarca, I have in almost all instances found a great tendency to throw off the red particles of the blood by the kidneys, betrayed by various degrees of hæmaturia from the simple dingy colour of the urine, which is easily recognized; or the

slight brown deposit;—to the completely bloody urine, when the whole appears to be little but blood, and when not unfrequently a thick ropy deposit is found at the bottom of the vessel.

Besides these cases of sudden anasarca swelling being generally accompanied by coagulable urine, I have found another and apparently a very opposite state of the system prone to a secretion of the same character; namely, in persons who have been long the subjects of anasarca recurring again and again, worn out and cachectic in their whole frame and appearance, and usually persons addicted to an irregular life and to the use of spirituous liquors. In these cases the albuminous matter has coagulated, in the more ordinary way, in flakes and little curdled clots; but instead of rendering the whole milky, the flocculi often incline to a brown colour, looking like the finest particles of bran more or less thickly disseminated throughout the heated urine. Occasionally in these cases the urine has been much loaded with saline ingredients becoming turbid by standing, but rendered quite clear by the application of a much lower degree of heat, than is necessary to coagulate the albumen.

In all the cases in which I have observed the albuminous urine, it has appeared to me that the kidney has itself acted a more important part, and has been more deranged both functionally and organically than has generally been imagined. In the latter class of cases I have always found the kidney decidedly disorganized. In the former, when very recent, I have found the kidney gorged with blood. And in mixed cases, where the attack was recent, although apparently the foundation has been laid for it in a course of intemperance, I have found the kidney likewise disorganized.

It is now nearly twelve years since I first observed the altered structure of the kidney in a patient who had died dropsical; and I have still the slight drawing which I then made. It was not however till within the last two years that I had an opportunity of connecting these appearances with any particular symptoms, and since that time I have added several observations. I shall now detail a few Cases, beginning with the two first, in which I had an opportunity of connecting the fact of the coagulation of the urine with the disorganized state of the kidneys.

CASE I.

JOHN KING, æt. 34, was admitted October 12, 1825, into the Clinical ward of Guy's Hospital, under my care. He had been a sailor till within the last four years, and was accustomed to take considerable quantities of spirits;—but he said he had since avoided taking them, and had been engaged in turning a cutler's wheel. He was pale, and of an unhealthy appearance.

About three weeks before admission he was seized with pain in his loins, knees, and ankles;—his legs soon became much swollen, and his hands and face occasionally œdematous. When admitted, the abdomen was painful on pressure. Pulse 78, rather hard; tongue natural, but pale. Bowels somewhat purged; dejections rather light coloured. Urine scanty, about one pint in twenty-four hours. Appetite good.

R. Hydrarg. Oxydi cinerei gr. j,
Pilul. Scillæ compos. gr. xij,
Opii purificat. gr. j;

Contande et in Pilulas iij divide hora somni quotidie sumendas.

The reports of the five following days represent him as rather improving with regard to the quantity of urine. The œdema little reduced; and he lay easiest when raised in bed to nearly a sitting posture;—lying flat, however, produced neither cough nor irregularity of pulse. The state of his bowels was improved by an occasional dose of castor oil with tincture of opium.

20th. Attacked with severe febrile and inflammatory symptoms, with tenderness of the abdomen, pain in the chest, cough, and difficulty of lying down. Tongue furred. The pulse rose to 112 and even 120, and this accompanied with a red and turgid state of the face as if erysipelas were coming on.

Mittatur sanguis e brachio ad uncias duodecim.
Foveatur Abdomen.

Sumat Mist. effervesc. cum Vini Ipecacuanhæ ℥xv; sexta quaque hora,
et habeat Olei Ricini f. ʒvj cum Tinct. Opii ℥v vespere.

21st. The bleeding gave him relief; the blood, which was taken in a full stream, was covered with a sily coat nearly half an inch thick, but was not the least cupped. In the evening the symptoms returned with severity.

Repetatur sanguinis detractio ad f. ʒxij.

24th. The inflammation of the face had put on all the characters of well marked *Herpes labialis* of most unusual severity, covering not only both lips but the alæ and

the point of the nose. Some blood had been passed in his motions; his urine had become more copious, and the sediment which subsided to the bottom had diminished.

R. Pulv. Ipecacuanhæ gr. j,

Hydrarg. cum Creta gr. iij;

Fiat Pulvis ter quotidie sumendus.

Foveatur Abdomen.

25th. Urine much more copious, amounting to three pints: it has assumed the *dingy brown colour which marks an admixture of the red particles of the blood.*

26th. Eruption taking its natural course of scabbing,—has not extended since the first day of its appearance. He continues improving, but has some *pain and weakness of his loins*; a little pain occasionally in the shoulders and left side;—he lies down easily;—legs continue to swell. Pulse 78, soft and of good strength. Tongue moist, but rather furred. One small dejection with slight trace of blood. The tenderness of abdomen gone. Urine in good quantity, tolerably clear, but *coagulates by heat.*

27th. Gums sore from the mercury.

Continuantur Pulvis Ipecacuanhæ et Mistura.

28th. Complains of sore-throat, but there is scarcely a blush of redness to be perceived.

29th. Throat still sore.

31st. Is decidedly better—the eruption is nearly gone. Legs continue to swell, though less; lies down without inconvenience, and only complains of *weakness and pain of the small of the back.* Bowels confined. Urine pretty copious, slightly turbid. Pulse 86, of good strength. Tongue moist, very slightly furred.

He was removed on the 2nd of November to another ward so much improved as to be able to walk about; he was taking a grain of ipecacuanha three times a day with reference to the disordered secretion of his bowels.

On the evening of the 10th, Mr. Stocker, the skilful and experienced apothecary of the hospital, was called, on account of a sudden attack of dyspncea with symptoms of inflammation in the chest.

Mittatur sanguis ad f. 3x. Applicetur Empl. Cantharidis Sterno.

11th. He had been relieved by the bleeding. Blood covered with sisy buff, slightly coagulated. Was quite unable to lie down in bed,—his pulse 120, rather indistinct in the right wrist, but not so in the left. He complains of no particular pain, but the dyspncea is very urgent and apparently increasing.—The urine scanty.

R. Hydrarg. Oxydi cinerei gr. j,

Pilul. Scillæ comp. gr. xij,

Opii purificat. gr. j;

In Pilulas iij divide hora somni sumendas.

Repetatur sanguinis detractio ad eandem qua heri quantitatem et applicetur Emplastrum Cantharidis Sterno.

The bleeding gave only temporary relief; the blister was repeated on another part of the chest in two or three days. The œdema increased, and his appearance became more depressed.

15th. R. Mistur. Camphoræ f. ʒx,
Liquor. Ammoniac Acetat. f. ʒiij,
Spir. Æther. nitr. f. ʒfs;

Misce, fiat Haustus ter quotidie sumendus.

Repetantur Pilulæ.

Nov. 18th. The symptoms had suffered little change: he sat erect in bed, leaning a little forward, during the day, and at night always wished to sit by the fire. His countenance pallid, rather shrunken, a little puffy about the eyes, and expressive of great anxiety. Hands and legs œdematous; urine very scanty. Pulse 120, quite regular. Respiration 36, with great effort. From the anxiety of his countenance coupled with the position of his body I was led to consider the mischief to be in the pericardium.

20th. The symptoms unaltered, but he loses flesh and grows weaker. Urine very scanty. Pulse 104, quite regular, and of considerable strength.

On the 22nd a grain of digitalis was added to each dose of his pills.

24th. Still as before, never lying down; he complains of some tenderness in the situation of the liver. Resp. 32, performed with great effort and a slight groan on expiration, which however appears voluntary. Pulse 108, full, strong. On percussion the chest appears quite resonant, except about the region of heart and pericardium. Dejections reported healthy.

25th. Was lying nearly flat in the bed, inclined to the left side. Pulse 104. Resp. 40. Rather more urine.

29th. Lies, slightly raised in bed, rather on his left side. There is considerable œdema of the lower extremities. Resp. 32.—Pulse 86, firm, hard, with a bound, perfectly regular. Urine scanty, but clear and of a natural colour. Great tenderness in the upper part of abdomen, which, he says, came on since the morning. And he likewise speaks of a sense of water rolling about in the right side of the chest, as having come on since the morning. On percussion the right side of the chest is more sonorous than the left, which is rather dull. By assistance of the stethoscope I thought the sound of the heart's beat was as if performed through fluid. Head perfectly free from any thing like delirium or wandering.

He died a few hours after the visit.

SECTIO CADAVERIS.—Nov. 30th.

Countenance purplish, bloated; some œdema of legs. The pericardium contained four ounces and a half of clear serum, which became gelatinous a few minutes after being removed. Both portions of the pericardium had many patches of a villous deposit of fibrin, thrown out recently so as to be easily peeled off in some parts, in others the fibrin was more firmly fixed. This coating of fibrin covered with a thin pellicle some inches of continuous surface on the posterior and lower part of the loose portion of the pericardium: it was also remarkable that it was attached very firmly and thickly on the heart in the course of the coronary vessels; it occurred likewise in patches of half the size of a sixpence on many parts; not forming adhesions, but presenting a rough villous surface. The heart was large and firm; the only valvular disease was in the semilunar valves of the aorta, where, in the angle between two of the valves, a triangular and solid deposit of bone of the size of a pea was found. The left lung adhered very firmly throughout most of its extent, and was in every part converted into a gray hepatized structure, very few portions admitting partially the entrance of air. There was some effusion into such parts of the cavity of the chest on this side as the nature of the adhesions admitted. The right lung was soft, and in structure not unnatural, but œdematous; filled by the effusion of serum, so that the fluid ran out mixed with innumerable fine bubbles of air immediately it was cut into. The whole cavity of the chest on this side was filled with serum, but the lung not compressed by it.

A pint or two of clear and transparent serum was effused into the cavity of the abdomen. The intestines and stomach were greatly distended with flatus, and there was an appearance as if the vessels running along the large curvature of stomach were distended with air; an oblique hernia was found on the right side; a few of the mesenteric glands were enlarged to the size of horse-beans. The peritoneal coat of the liver covered and rendered somewhat opake by a very thin coating of fibrin apparently not very recent, and a number of flocculent deposits of the same kind. In the size and substance of this organ no obvious disease; rather pale coloured, of a purplish drab throughout, and not of a firm consistence. The gall-bladder full of healthy bile, and larger than natural. The pancreas healthy.

The spleen dark coloured, with a slight adventitious covering. The KIDNEYS were completely granulated throughout (Plate I.): externally the surface rough and uneven; internally all traces of the natural organization nearly gone, except in the tubular parts, which were of a lighter and more pink colour than usual.

In this case we have a very well marked example of a granulated condition of the kidneys, connected with the secretion of coagulable urine. If we can form any judgement of the priority of disease from the more advanced state of organic change, we shall be inclined to consider that the disease in the kidney was first established, and had probably laid the foundation for that effusion into the cellular membrane which had taken place previously to his admission.

There was no evidence whatever of organic disease in the liver from the beginning, except the account he gave us of his mode of life. Examination after death afforded no ground for the opinion that either the viscera of the chest or the liver were in the first place materially diseased. On the contrary, the organization of the liver and its functions, as far as any means of judging could be afforded by inspection after death or observation during the progress of the disease, remained unimpaired to the very last; and the morbid appearances of the heart, though evidently connected with the fatal result of the case, were of a nature to evince recent inflammatory action on the pericardium, and not that state of disease which has commonly been observed in connexion with general dropsical effusion. The diseased state of the left pleura was evidently a matter of longer standing, and the firmness of the adhesion gave ground for supposing that some pleuritic attack must have existed previously to his admission: it is not however at all improbable, that greater part of the mischief done to the substance of the left lung had taken place between the 20th of October, when he suffered the severe inflammatory attack, and the 29th of November, when he died. The serous effusion which was found more particularly in the right lung, might have been, and most probably was, one of the last circumstances which took place near to the close of life. At the time this case came under my care, my mind was not made up as to the indications which were to be derived from the albuminous quality of the urine; and therefore, though I noticed the fact, I did not afterwards so regularly mark the progressive changes of this

secretion as I have since been in the habit of doing. I have however no reason to suppose that it lost its tendency to coagulate. The dingy colour occasionally communicated to the urine in this case by admixture of blood, serves further to connect it with the other cases of dropsy with diseased kidney which I have seen; and it is worthy of remark, that the patient complained often of pain and weakness in the loins, a symptom which is not unfrequently connected with this peculiar disease of the kidneys.

The tendency to inflammatory affection in this man was a striking feature in his case, and appears to me connected immediately with the condition of the kidneys; for when the secretion of these organs is greatly deranged, the serous membranes seem always ready to become the seat of inflammatory action. The most severe instance of pleuritis I ever witnessed was in a case of diabetes, where the inflammatory disease carried off the patient in two days. In the present case the tendency to inflammation was such as would have authorized larger depletions, but I was deterred from repeating the bleeding by the decided and rapid increase of the effusion.

CASE II.

ELIZABETH BEAVER, æt. 37, was admitted November 23rd, 1825, into the Clinical ward, with swelling of the whole abdomen, attended by evident fluctuation; but depending in part on tympanitic distention. The more marked effusion was into the cellular membrane of the parietes of the abdomen, and into that of the lower extremities, which were greatly swollen; and there was considerable erythematous inflammation above the ankles. Her face and arms had likewise occasionally swollen. Severe cough was excited by deep inspiration; causing some pain in the abdomen, which was slightly tender on pressure, and she complained of pain under the ribs on the left side. Her breathing was short; she was unable to lie in the horizontal posture; she slept little, but was refreshed by it; and she did not start. Pulse 112, regular. Tongue furred at the back part; clean at the edges. Bowels relaxed. The quantity of urine uncertain, and quite clear.

She had been ill altogether about six months, her illness commencing with pain in the chest, and the increase of a cough to which she had been subject for four or five years. She was at that time under medical treatment, which removed the pain of the chest; but the cough was not cured. The catamenia had stopped about four months, and a week after the last time she was regular the left leg first began to swell, afterwards the right leg; and in two months the abdomen likewise. For the last three months the bowels had been much relaxed. The state of great depression in

which this woman was, and the constant diarrhœa, induced me to order the following prescription.

R Hydrarg. cum Cret. gr. v,
Confect. Opii gr. x;

Fiant Pilulæ ter quotidie sumendæ.

Habeat Julepi Ammoniac Subcarbon. ʒiſs cum Confect. Aromat. ʒſs sexta quaque hora.

24th. Bad night; breathing a little more easy; cough not severe; is obliged to be supported by pillows in bed; legs very painful; inflammation above the ankles increased; complains of pain in the abdomen and across the loins; four or five dejections, curdly, fœtid, and rather scanty. Tongue rather furred at centre and base. Not much thirst. Pulse 112, very weak, quite regular; hands cold and purplish.

25th. Tolerable night; cough less; expectoration tough puriform mucus, moderate in quantity. *Urine coagulates by heat*, for the last two days scanty, passes frequently and unconsciously. Two watery dejections, much improved in character. Pulse from 108 to 120, weak. Tongue a little furred, and red at its edges.

The reports for the next three days were very nearly the same; but she gradually became weaker. The respiration increased to 32 in the minute, the pulse to 132. Vesications arose on various parts of her lower extremities, and she died on the evening of the 29th. The only remedy which was given with immediate reference to the dropsical symptoms, was a little squill pill and gray oxide of mercury, with a grain of opium twice a day for the last three days; while at the same time her strength was supported to the utmost by mild diet and by cordials.

SECTIO CADAVERIS.—Nov. 30th.

Whole surface greatly cedematous, and light purple ecchymoses covered with vesications on the upper parts of both thighs, and on the sides of the abdomen. Some effusion had taken place into the cavity of the chest on both sides, but the lungs throughout were in a tolerably healthy condition. Heart unusually small, and feeble in its structure; the cavity of the left ventricle very small, and the parietes of the right very thin, but not distended. In the pericardium about one ounce and a half of serum.

The cavity of the abdomen contained a very considerable quantity of limpid straw-coloured serum. The intestines were somewhat distended with flatus, but presented no unhealthy appearance. The liver externally gave the idea of being granulated with some yellowish granules; but this

appearance was very much confined to the surface; so that on making a section, although in some parts where this was most marked, there was a little of the same disorganization seen, for the eighth or tenth of an inch in depth, yet the rest of the liver was throughout tolerably healthy, but flaccid; the superficial appearance was partial. The gall-bladder contained healthy bile of very natural colour. The pancreas and spleen healthy, or not manifestly otherwise.

The KIDNEYS were both of unusual size, certainly half as large again as most commonly seen; the right was the largest: on an external view they were obviously granulated with a large proportion of yellow granular matter: on taking off the proper tunic this was more distinctly seen; and on cutting in, the whole of the cortical structure seemed to be converted into a yellow substance in appearance like fat in many parts; though in other parts the change had not gone so far. In the pelvis, the uterus and bladder small and contracted; some of the lumbar glands looked dark, and were of the size of large French beans.

In this case we have an example of dropsy with coagulable urine, connected with no other organic derangement except that which had taken place to so great an extent in the kidneys; unless indeed we take into view the small size of the heart, which appears to have been an original formation, or the result of a continued state of debility. The size of the kidneys considerably larger than usual, certainly suggested the idea that the fatty and granular substance had been the effect of the deposit of fresh matter in the interstices of the natural structure.

CASE III.

MARY SALLAWAY, aged about 25, was admitted into Guy's Hospital, November 8th, labouring under anasarous swellings. Jan. 7th, when passing through the ward, I was requested to see her, on account of a severe diarrhoea under which she was suffering: this was the first time I had observed her. I found on inquiry that about two months before her admission into the hospital she had perceived the swelling of her limbs, which she ascribed entirely to low living and having during a period of much privation drunk a great quantity of water: however, it appeared that she had lived a very irregular life, and no doubt had at some period been in the habit of taking spirits. She lay at this time on her right side, coughing very frequently, and panting as if effusion had already taken place into the chest. Her face was bloated and

swollen, of a livid colour; her legs œdematous;—but I was told that they were much reduced since she had been in the hospital. Both her stools and her urine were passed chiefly in bed, so that I could not then procure a specimen of the urine. The stools were not unhealthy in colour. On the following day I found the urine *to coagulate very considerably by heat*. She was then lying on her left side, and her breathing was exceedingly embarrassed. On the 12th she died.

With regard to treatment, a very fair and careful trial had been made of the squill and mercury for nearly a month; and various combinations of squill and opium, with the occasional use of other diuretics, had been cautiously adapted to the changes in her circumstances.

SECTIO CADAVERIS.—Jan. 12th.

In the left cavity of the thorax nearly two pints of turbid serum of a brownish colour were effused. The left lung on its upper part was very œdematous, so as to feel hard, it appeared almost fleshy when cut into, and in some parts the earliest stage of tubercular disease was taking place. On opening the right side of the chest some air made its escape. A considerable quantity of serum was found effused, and the lung was very much condensed, so that only a small portion admitted air. A thick adventitious membrane surrounded the greater part; and it was firmly glued to the pleura. The apex of the right lung was completely tuberculated, and two cavities as large as walnuts were there formed by suppuration. Most of the tubercles were in an early stage of their progress. The heart was healthy; the commencement of the aorta slightly diseased, with bony deposit.

In the abdomen about two pints of clear straw-coloured serum were effused. The liver was pale, yellowish, rather firm, and inclined to granulation; but not greatly altered in its structure, size, or consistence. The gall-bladder contained a small quantity of thin saffron-coloured bile. The spleen and stomach healthy; the intestines externally appeared healthy, but the ilium near to the valve was ulcerated, a number of small round ulcers forming amongst the aggregate mucous glands.

The KIDNEYS externally somewhat misshapen from the tubercular character of their structure: the form did not depend upon any disease analogous to true tubercles, but upon a general change in the substance of the kidney, some parts projecting of a white colour upon a pinkish ground, the small starlike vessels running over them. The size was but little altered. The proper tunic adhered very closely. Internally the whole

cortical structure was of a pretty uniform yellowish colour with many small opaque and indistinct yellow spots. On injecting the arteries with fine size, it was found that considerable spaces were left free from injection externally, and on making a section the same partial distribution of the vessels was also observed (Plate II. Fig. 1, 2, 3.).

This case was one where, in addition to the hydropic effusions which had so prominently forced themselves on our observation, symptoms of confirmed phthisis pulmonalis had supervened. The urine was decidedly coagulable, and the kidney in a state of degeneration, which I have in other instances remarked as connected with a cachectic state of body, both attended with anasarca, and unaccompanied by it. In Plate II. where I have given a representation of this kidney, I have also introduced the section of a kidney in what I conceive a less confirmed state of the same degeneration (Fig. 4.). The patient (Cadmore) from whom this was taken, and whose case I may hereafter more particularly detail, died after a most protracted illness, from a tumour connected with the left ovary, which contained the imperfect rudiments of a fœtus.

CASE IV.

DANIEL PEACOCK, a bricklayer, was admitted into the Clinical ward, Nov. 22nd, 1826. It appeared both from his own account and that of his relations, that he was by no means a man of intemperate habits, having very seldom taken spirits: he was in tolerable health until about two months before his admission; when being very hot by carrying a great weight, he drank some cold beer and lay on the damp grass;—the following day, or the day after, his legs began to swell.

At the time of his admission he was anasarcaous over his whole body, but his legs were most particularly swollen, and some effusion appeared to have taken place into the cavity of the abdomen; his breathing was much oppressed. He had taken no medicine except an emetic, which had been administered on account of the sickness which attended his first attack.

R Hydrarg. Oxydi cinerei gr. j.
Pilul. Scillæ compos. gr. xij;

Contunde et in Pilulas iij divide hora somni quotidie sumendas.

R Misturæ Camphoræ ℥j.
Spirit. Æther. nitr. ʒss;

Misce, fiat Haustus ter die sumendus.

23rd. Three copious watery dejections, with griping. Urine very scanty, and high-coloured, *coagulating by heat*. Pulse 120, small. Tongue clean. The quantity of urine in a few days increased considerably; it was of a *brown colour*, apparently *from admixture of the red particles of blood*.

On the 26th, half a grain of opium was added to his pills; and on the 29th, a dram of the stronger mercurial ointment was ordered to be rubbed daily upon his abdomen. The stools were always copious and watery.

Dec. 1st. The abdomen much less tense, swelling of legs and thighs nearly gone; breathing still continues short. Pulse 120, small. Tongue rather white. Urine very scanty, turbid, and high coloured. Appetite good.

Although for a time there was considerable appearance of improvement, yet the symptoms soon became stationary, and the swellings occasionally returned; and it was found necessary to adopt a variety of treatment;—for a time elaterium combined with opium produced a good effect;—the extract of taraxacum was also tried;—and a combination of calomel with antimony and opium. All, however, failed in changing the character of the urine, which still continued scanty, coagulating very strongly so as to form a complete white curd on the application of heat.

On the 12th of December Erysipelas made its appearance on the right leg and foot; an exhausting diarrhœa came on: and he sunk upon the 16th.

SECTIO CADAVERIS.—Dec. 18th.

Very little œdema except in the legs. The right cavity of the chest contained about three pints of clear yellowish serum. The lung on that side was slightly puckered and hardened at the apex of the upper lobe: the whole lung was rather condensed owing to the pressure of the fluid, but in no way disorganized, or hardened, or œdematous. The left cavity contained about a pint and a half of serum; the left lung was healthy. The heart small but quite healthy, and its valves perfect. The aorta natural, and its internal lining beautifully white and smooth. In the abdomen no fluid was effused. The intestines to external appearance were natural, but internally showed marks of irritation throughout. The mucous glands in the small intestines enlarged; the colon as if smeared with blood; no ulcerations were discovered. The liver rather misshapen, with one or two scars upon it; and at the upper part of the right lobe a small collection of tubercular bodies, in a circumscribed group; a similar collection near the thin edge of the small lobe. The whole substance of the liver was nearly in a healthy state; a little inclined to be granulated, of a pale colour, the acini differing rather more from the surrounding parts than in perfect

health. The gall-bladder not well supplied with bile. The spleen had, imbedded in its substance, a white mass half an inch deep and an inch long, otherwise it was of its ordinary appearance. The KIDNEYS afforded throughout their whole cortical structure a curious specimen of disease, apparently the commencement of granulation; they were rather large and soft; their general colour was pale, and on taking off the tunic, the whole surface was seen speckled with minute yellowish bodies: on making a longitudinal section the same bodies were seen pervading the whole cortical substance, assuming near the surface somewhat of the striated arrangement observed in the structure of the kidney at that part, and irregularly disseminated through the other parts. (Plate III. Fig. 3.)

We carefully examined the state of some of the principal arteries and veins of the body, and found them all free from the slightest marks of disease.

The appearances thus presented on examination were in the most perfect accordance with what I had anticipated, and even previously committed to writing. I had been able to trace very little evidence of disease either in the heart, the lungs, the liver, or any other organ to the derangement of which we usually ascribe dropsy; but I had observed the well marked symptoms of renal irritation and disorder, from which I have of late been led to look for decided changes in the kidney: the invasion of the disease had been sudden, apparently from repressed perspiration; the urine had been highly coagulable, and had at different times been loaded with the red particles of blood; and the ordinary medicines exhibited with unusual care and skill had failed in making any favourable impression on the disease.

CASE V.

HUGH THOMAS, a stout-looking sailor, about 34 years of age, was admitted Nov. 29th. Not unhealthy in countenance: he denies having been intemperate; but has taken a good deal of spirits-and-water. Three years ago he caught a severe cold, and since that time has never felt well. About five months ago first began to swell. At present there is the most decided œdema of the lower extremities, thighs and legs, which are soft and pitting; occasionally his whole body is said to swell. Urine scanty, very little is passed in the day, more at night; high coloured and clear; *coagulates into a complete gelatinous mass by heat*. He was cupped in the region of the liver, and was ordered to take a combination of the gray oxide of mercury with squills at night, and

to make use of a solution of tartrate of potash with a little of the tincture of digitalis. Under this treatment he improved for some days; his urine rather increased, and became less coagulable, so that occasionally the application of heat produced merely an opalescence. It was necessary to give purgatives, and for this purpose powders of jalap and supertartrate of potash were found best. It was remarkable that his skin was almost always perspirable. The urine continued to increase and to become less coagulable, so that occasionally the application of heat produced simply an opacity in the fluid. On the 22nd of December very urgent dysenteric symptoms came on, and from that time the greatest care was necessary to regulate the condition of the bowels.

27th. The dysenteric attack subsiding; the secretion of the kidneys rather more copious. I saw about eight ounces of high coloured urine; by exposure to heat it became covered with a fine pellicle, such as is seen on boiled milk when cooling; œdema of the legs and thighs continues.

31st. Is much better with regard to his bowels, but he passes very little urine; looks pallid and ill, and the œdema remains as it was: it is chiefly confined to the legs and thighs, which are not tense, but very soft and yielding under pressure.

Jan. 4th. Urine exceedingly scanty; on the application of heat a pellicle is formed stronger than before.

12th. Swelling increased. Urine scanty, and becomes throughout milky by heat.

22nd. Anasarca swellings rather increase about the hands as well as the legs; he always appears low in spirits, and is pallid. Urine scanty, of a very light straw colour; becomes quite milky by heat, and remains like milk-and-water, with little tendency to form flakes or to curdle.

Feb. 12. Urine very scanty, of a brightish yellow colour; coagulates strongly by heat in the more usual curdlike manner. He has been evidently declining for some days; his cough more troublesome, the expectoration puriform, and for some days there have been symptoms of inflammatory affection in the chest. Purgings frequent; dejections watery. He died on the 14th.

SECTIO CADAVERIS.—Feb. 15th.

General œdema in the lower extremities, though not tense; skin sallow, not jaundiced. About a pint and a half of turbid serum was effused into the left cavity of the thorax; and the pleura both of the lung and the ribs was covered with flakes of coagulable matter, evidently the product of recent inflammation. The lung itself firmer and more red than natural. The right side of the chest nearly free from disease; the lung on that side remarkably healthy. The heart rather flaccid, as if but little called into action. The liver pale, inclined to granulation in its appearance, but not enlarged, nor materially firmer than natural. The gall-bladder well

supplied with bile; spleen rather pale coloured; pancreas natural, but grayish. The whole peritoneum appeared to have suffered from recent inflammatory action; a general gray opaque appearance prevailed throughout, and a considerable quantity of clear straw-coloured serum was effused, from which much coagulable matter had separated in flakes adhering to different parts, and particularly gravitating towards the pelvis. On laying open the canal of the intestines, it appeared that throughout the whole considerable irritation had existed, and a great secretion of serous fluid, so that the small intestines in particular, had exactly the appearance of having been washed out with water till no vestige of mucus was left. The duodenum near the stomach rather firm and rough; the stomach healthy. KIDNEYS large, very dark on their upper surface, on the lower mottled with yellow; no elevated granulation to be seen externally, but many small yellow specks. Internally the substance was remarkably pale, and had assumed the appearance of a fatty substance, with some traces of granulated structure throughout: this however depended in part on a flaky opaque matter thickly disseminated (Plate III. Fig. 4.); and this same appearance became very obvious, over the whole external surface after the kidney had been kept in pure water for a day or two; in fact, the general morbid state of the kidney approached very much to that observed in the last Case, except that the flakes of opaque matter were less numerous and defined, and the general structure was more inclined to granulation.

In this case we have another decided instance of anasarca with coagulable urine connected with disorganization of the kidneys. The long continuance of the symptoms before the patient became the subject of treatment, the very scanty secretion of urine and its coagulable nature, and the comparative freedom from disease either in the thorax or the liver, led me from the first moment I saw him to anticipate that he would not recover: and the belief that the kidneys would be found the marked seat of disease, induced me to pay attention to the progress of the symptoms, though the case was not under my own care. The result fully justified my expectations: and the peritoneal inflammation and more acute pleuritic attack which appeared to hasten his dissolution, afford but fresh proofs of the disposition which exists in this disease to severe inflammatory affection of different structures, but more particularly of the serous membranes.—I

thought it probable that dissection would have shown some peculiarity in the structure of the kidneys, to which we might have ascribed the modification which the albumen in the urine seemed to have undergone, judging from the peculiar manner in which it coagulated. In this, however, I was disappointed: the kidneys appeared to be in the less advanced stage of that granulated change of which the case of Peacock has afforded one variety in its early stage; and of which the case of King, and that which I shall next relate, afford more confirmed examples.

CASE VI.

MARY ANN RICHARDSON, a middle-aged woman, was admitted November 8th, 1826, with anasarca: she had been two or three times in the hospital during the last two years with renewed attacks of the same disease, and had gone out relieved. She was now, as I understood,—for I did not see her,—in the most hopeless and advanced state of disease. The effusion somewhat diminished under moderate depletion, followed by the use of squill pill and the gray oxide of mercury, which remedy was continued for ten days without affecting her mouth. On the evening of the 21st she became rather suddenly worse, complaining of great difficulty of drawing her breath; and although assistance was immediately obtained, she died in a few minutes.

SECTIO CADAVERIS.

Lungs tolerably healthy in structure; but it was found that the pulmonary artery was completely blocked up by a coagulum of fibrin of firm texture. The heart was not particularly large.

On examining the abdomen it was found, that the vena portæ and its large branches going into the liver, were obstructed likewise with coagulum nearly separated from the red particles; and the splenic vein was in the same condition. The liver itself very healthy in colour and consistency, except that it bore a little of the speckled appearance resulting from a difference in the colour of the acini and the connecting substance. The gall-bladder contained some greenish bile: spleen healthy.

THE KIDNEYS afforded very fine specimens of the confirmed granulated change. Of one I procured a very exact drawing; the other was injected carefully with coloured size; but they approached so exactly to the kidneys depicted in Plate I., that I did not think it necessary to have them engraved. They were rather large and bulky; the granulation was seen

externally over every part of the surface; even before the tunic was removed. The granular bodies were small, of a yellow colour, and the surrounding substance more pink. On cutting longitudinally through the kidney, it was seen that the whole cortical substance was composed of the same altered structure, and the striated arrangement near the surface was almost lost. With respect to the kidney which was injected,—red size was first thrown into the artery, and this passed with tolerable facility so as to fill the whole pelvis; when the red injection had run completely, yellow size was thrown into the vein. On examining this kidney externally, a mottled surface was seen, in which the ground-work was a pink and a whitish yellow colour nearly in equal parts; and in this were seen frequent spots of the red injection as large as moderate sized pins' heads: and besides this, the yellow injection was seen filling the beautiful star-like vessels which ramified quite superficially. On making an incision longitudinally, the cortical substance presented a confused and indistinct congeries of points of red injection and of yellow injection, with much fatty-looking matter which had not been injected. Around the outer part of the tubular portions the yellow vessels were very numerous, converging towards the centre, and a few penetrated at least two-thirds of the whole depth of the mammillary processes. The lower portion of the tubular part contained the converging vessels filled with red injection, and these were seen opening on the points of the mammillæ.

CASE VII.

ELIZABETH STEWART, aged about 40. This woman, who appeared to have been exposed to the difficulties and temptations of the lower classes, had for eight years been subject to slight attacks of dropsy; during which time she had twice been in the London Hospital labouring under this disease, and had received relief. She ascribed her present attack to great exposure about a year ago, having walked in the rain from Deal to Gravesend without afterwards putting off her wet clothes. She was admitted into Guy's in October 1826, greatly swollen with anasarca, the serum running from her legs: she passed but little urine, and her breathing was greatly oppressed. She first particularly attracted my attention November 25th. At that time she had been taking the Pil. Scillæ cum Hydrargyro till her mouth was very sore, combined with other diuretics: all her symptoms were greatly improved; the swelling had nearly subsided. Urine increased to nearly three pints in the twenty-four hours; pretty clear and natural in appearance: but from the history she gave of herself, her pallid cachectic appearance,

and the soft unnatural feel of her flesh, I was led to suspect this might be one of those cases in which the urine would coagulate, and probably the kidneys prove diseased. Accordingly, on the application of heat to the urine I found that it *coagulated very considerably*: and she stated that for the last six months she had experienced a good deal of pain and uneasiness in her loins.

The improvement she had experienced was but temporary. In about a week the urine again became most exceedingly scanty; the quantity varied much. On the 10th of December I found it to be scanty and clear, but *coagulating by heat, becoming first milky and then loaded with a great number of flakes*. She spoke very decidedly as to feeling at all times *a pain, weight, and weakness across her loins*. There was after this time frequent evidence of inflammatory action going on within the chest, and of effusion into the cavities, which led to several changes in the medicine, and to the application of blisters.—Jan. 2nd. She did not pass above an ounce of urine in the night. On the 3rd there were about four ounces, coagulating freely; and on this Dr. Bostock was so kind as to make some experiments.

Jan. 13th. She has been growing decidedly worse for the last three days: before that time she had been so much better as to be sitting up the greater part of the day. She is now confined to her bed, can scarcely lie on either side: her abdomen begins to swell, and her hands are cedematous; she has a frequent dry cough; her face is puffy. Urine scanty, and she complains of pain all round the lower part of the body.

17th. Evidently sinking, complaining much of pain passing through from the chest to the back; sits nearly erect; coughs, and expectorates a tough mucus slightly tinged with blood.—She died on the following morning.

SECTIO CADAVERIS.

We were not permitted to examine the chest. In the abdomen three or four pints of clear serum were effused. The liver was slightly lobulated in its appearance, and the acute margin rounded; the peritoneal coat a little thickened. The substance of the liver rather increased; the acini light-coloured, not projecting the least; the intervening substance of a brighter red than natural. Gall-bladder rather small, but containing well coloured bile. KIDNEYS small, rather lobulated, of a semicartilaginous hardness, completely granulated; the small whitish or yellow granules projecting with red intervening spaces, so as to form a scabrous surface, both appearing and feeling rough. On making a longitudinal section, the kidney cut with the resistance of a schirrous gland; the tubular part was drawn much nearer to the surface than is natural; the cortical part indistinctly granulated throughout, of a grayish drab mixed with purple (Plate III. Fig. 1 and 2.).

Although we were not permitted to examine the chest, there is little

doubt from the symptoms, that the pleura had in this case been attacked by pretty active inflammation a few days before death, and not the least doubt that very extensive effusion had latterly taken place into the cavities of the chest.

CASE VIII.

WILLIAM BONHAM, æt. 55, a large man of florid complexion, living as a carter in the service of a cheesemonger, was admitted into Guy's Hospital, December 13th. A married man, habitually taking a good deal of spirits, stated to have enjoyed till within two or three years a good state of health, except that about eleven years ago he suffered from severe inflammation of the chest. For the last two or three years he has experienced occasional pain in his back and loins, and has been subject to complaints which he has considered gravel, passing his water frequently and in rather deficient quantities. For nearly a year he has been much out of health from an attack of gout, and great shortness of breath. About two months ago, after much exposure to cold and wet, his legs first began to swell. At the time of his admission his legs and thighs and scrotum were most enormously swollen. Anasarca extended over his whole body, both the abdomen and the back; his left hand was also puffed up by the effusion into the cellular membrane.

15th. Urine of a deep yellow colour, clear, and *coagulating in a very marked manner by heat*, assuming a white curdled form.

He derived great relief from the means employed, for a day or two, but then his cough increased; he was obliged to be raised very much in bed; his urine became more scanty, but was quite clear.—He sunk and died on the sixth day after his admission.

SECTIO CADAVERIS.

The lungs adhered almost universally; and in those parts of the cavity where this was not the case, serum had collected. The lungs themselves were oedematous in a high degree. The heart remarkably enlarged; on the left side it was very thick and strong; on the anterior surface was one of those opaque, white, superficial patches which are frequently observed; the valves all perfectly healthy. The liver was rather hard and solid, but not diseased in structure. The spleen was soft; pancreas and intestines healthy. The bladder contained a few drams of urine. The KIDNEYS were very small, and hard in consistence, feeling almost cartilaginous; their prevailing colour was purplish; on their external surface they were distinctly granulated in texture; and on making a longitudinal section the same

was perceptible throughout: it was remarkable that the cortical portion was exceedingly thin, so that the distance between the termination of the tubular part and the external surface was much less than in the healthy organ. In this respect, as indeed in most others, the kidneys agreed very exactly with a drawing which was made for me from the kidney of a dropsical patient about two years ago; and likewise with the kidney of the last patient, which is most accurately depicted in Plate III. Fig. 1 and 2; the only difference being, as far as I could discover, that in the kidneys from which the engraving is taken, the granular appearance was rather more marked, owing to the less general prevalence of the purple colour.

In this case we again distinctly trace the existence of a highly diseased condition of the kidney, coupled with the secretion of albuminous urine. The enlarged state of the heart would seem to bespeak some cause of obstruction to the circulation through the system beyond what we discovered, nor will I venture to say what share this might have had in giving rise to the dropsy.

CASE IX.

— SMITH, a married woman, who keeps a mangle, of a pallid countenance, marked with the small-pox; she has lived a very irregular life, and has drunk beer and spirits to great excess. I first saw her, and only casually, December the 3rd, three days before her death. A great variety of treatment had been adopted with care and perseverance: amongst the rest she had been put completely under the influence of mercury used in combination with squills, but nothing had afforded her more than very temporary relief. The account she gave me of her complaints was,—that thirteen weeks ago, without any cause of which she knew, a general swelling came on over her whole body and limbs, and had continued more or less ever since; she had never before experienced the same disease; for the last three days she had found the greatest difficulty in assuming the horizontal posture, and during the last night could not lie down at all: her countenance was somewhat bloated, her legs completely œdematous; her left arm, on which she had supported her weight, greatly swollen; she denied having any particular pain, except occasionally a *little across her loins*. Urine rather less than eight ounces in twenty-four hours, when first passed it was clear, but of a *dingy brown* colour; it became turbid on cooling, grew clear on the application of a gentle heat, and by raising the temperature nearly to the boiling point, it *coagulated in a very marked degree*, so that it put on the appearance of thick treacle-

posset. My friend Dr. Prout was so obliging as to examine a portion of this urine, and he considered it a variety not very common; its specific gravity was about 1021; it contained a large proportion of albuminous matter partaking of the character of that of the serum of the blood, and it likewise deposited the lithate of ammonia. No particular change took place in the symptoms, except their gradual increase, and she died on the 6th.

As I felt quite convinced that this was a case in which the kidney had undergone alteration in its structure, I made every endeavour to procure the examination, which was with some difficulty granted on the following day, when it was performed by the assistance of my friend Dr. Hodgkin, and Mr. Wright of Rotherithe, who had seen the patient in an earlier stage of the disease.

SECTIO CADAVERIS.—Dec. 7th.

The lungs were compressed by the serum effused into the chest, but in other respects were perfectly healthy and crepitant; the heart quite healthy, both in its general structure and in its valves; a very large quantity of serum, not less than three pints, in each cavity of the chest, perfectly limpid in the right, rather turbid in the left; about one ounce in the pericardium. The liver appeared externally quite healthy, and the gall-bladder contained good bile in sufficient quantity. On cutting into the liver, although the structure was not deranged, yet towards the thinner parts it was more firm than in perfect health, and a little more pale. The pancreas, of healthy structure and colour, but rather hard. The internal lining of the stomach towards the pylorus a little vascular. The duodenum was likewise remarkably vascular, so that the folds of the mucous membrane looked like turgid red lines crossing the internal surface in different directions; the other abdominal viscera were healthy.

The KIDNEYS presented most decidedly the granulated structure; this was somewhat marked externally, the lighter points of the granulation being smaller than I have often observed; and on cutting into the substance, it was seen that the natural structure was destroyed throughout the whole cortical part, which was mottled as in the two last cases I have described; but this morbid structure appeared in its most advanced stage around the tubular parts. I could not obtain permission to have a drawing made of these kidneys; but I regret this the less, as the gentlemen who were present, both of them observed the fact, as likewise the comparatively slight derangement of the liver.

CASE X.

MARY CASTLE, æt. 39, was admitted into Guy's Hospital, December 27th, 1826. Has been subject to cough and dyspnoea for eight years, but more severely for the last four years, after having suffered from an intermittent fever. She has been three times in different hospitals, affected with anasarca swellings: the present aggravation of her symptoms took place about a month before her admission. Her legs and thighs were swollen to the greatest excess; the cellular membrane of the abdomen was also tense with serum, and there was decided fluctuation from fluid in the cavity. The countenance exceedingly purple and bloated; the lips, nose and tongue, purple; eyes suffused and prominent; and the dyspnoea so great that she lay down with the utmost difficulty. The urine very scanty, not above six ounces in twenty-four hours; *coagulating decidedly*, though not to the extent I have often observed.

In the progress of this disease some alleviation was occasionally procured, but no very material amendment at any time took place. The urine always continued very scanty; sometimes it was tolerably clear, at other times it became turbid on cooling; at other times it bore the dingy colour which usually denotes the presence of blood: almost always the urine retained its coagulable property; but in general this was limited to a dense deposit of brownish flakes, the whole fluid not becoming milky or curdled. On one or two occasions diuretics had the effect of increasing the urine to a pint and a half and two pints in the twenty-four hours; but although benefit was generally derived at first from each new combination, yet after a very short time it lost its power. The *vinum colchici* was occasionally combined with purgatives with advantage; indeed purgatives always gave relief. The infusion of juniper berries with the acetate of potash was given as a drink, and the infusion of broom tops with preparations of squill: but decidedly the most relief was derived from the solution of the supertartrate of potash, and at the same time small doses of digitalis in powder.—She died on the 17th of February.

SECTIO CADAVERIS.—Feb. 19th.

There was but little effusion into the cavity of the chest, but the lungs adhered very considerably in some parts to the pleura costalis. The membrane lining the bronchial tubes was injected and vascular, and the tubes themselves appeared dilated; the substance of the lungs was healthy, but they were in a state of œdema. The heart was remarkably pale and flaccid, and there was very little difference in the thickness of the parietes of the two ventricles; a small quantity of serum more than natural had collected in the pericardium. The abdomen contained several pints of serum. The liver was mottled, showing the yellow acini in a red ground:

but although this was very strongly marked, yet the liver was neither hard nor tuberculated in its structure ; but on the contrary, was smooth and not very firm in its consistence ; the gall-bladder was full of bile. The KIDNEYS were contracted and hard, and on removing their tunic the surface was scabrous ; but the projecting roughness was of a pretty uniform gray purplish colour, and the same was observable on making a section.

In this case it appears that the cause of the effusion was somewhat complicated. No doubt the condition of the lungs and the obstruction produced by the chronic bronchial disease had a large share in producing the symptoms we have observed : still, however, the condition of the kidneys so nearly according with that of others in cases where the urine has possessed similar qualities, leads us in this fresh instance to mark the connection between the obvious morbid state of the organ and its very deficient powers of healthy action.

CASE XI.

HENRY IZOD, æt. 25, was a Smithfield drover, and a man of very irregular habits. He had long been accustomed to get intoxicated with porter, but had only taken spirits to excess, for the last year, during which time he had generally lodged at a public-house, and had been much exposed in his work to the inclemency of the weather ; seldom wearing a hat, never changing his clothes when wet, and being almost daily intoxicated : he had frequently suffered from cough, particularly in the winter. He had not enjoyed good health for two or three years ; and on one occasion about a year ago had an attack of dropsical swelling ; he had been nearly well again till the beginning of October, about seven weeks before his death, when after drinking and exposure he became swollen all over. He was under the successive care of two very judicious physicians. He took squills, digitalis, and other diuretics, and a state of salivation was kept up for some days. I never saw him but once, (about five days before his death,) at which time his swellings were reported to be considerably diminished ; but he passed very little water, and not being able to obtain any I did not examine its qualities : he was in an exceedingly low and reduced state, his mouth still very sore.—He died on the 23rd.

SECTIO CADAVERIS.

As this was a case in which, though the habits of the man were those which are supposed to give rise to chronic hepatic disease and consequent

dropsy, I saw no evidence of such disease either in the appearance, or in the other symptoms; and as the effusion had come on in the last instance rather rapidly, and the patient had not seemed to bear mercury well, I was very desirous of ascertaining the relative state of disease in the liver and the kidneys; and accordingly obtained permission to examine the body on the 25th, which I did at the late residence of the patient, with the assistance of my zealous friend Dr. Hodgkin.

The legs oedematous; slight oedema of the abdomen, about three pints of clear straw-coloured serum effused into the cavity of the abdomen; about an equal quantity in the two cavities of the chest. The lungs were not closely contracted, as if long compressed by a fluid, but were tolerably healthy in their first appearance; the whole, however, somewhat oedematous, and the upper lobe on each side rather condensed and red, as from some degree of chronic inflammation. Near the apex of each lung was a contraction or cicatrix, and within that a small portion of white gritty matter.—The heart was rather large, but in its structure healthy.—The liver was of the most natural liver-coloured red. I should have said that I never saw this organ in a more healthy state; but on very careful inspection the acini appeared lighter than the ground, and somewhat more so than natural. The spleen small, but natural. The stomach was rather loaded with mucus, and the inner coat grayish. Intestines healthy both internally and externally.—KIDNEYS most decidedly diseased; they did not feel so firm as natural, were almost white in external appearance, rather large and lobulated, without any signs of granulation, and only showing a few star-like vessels distributed on the surface; otherwise of nearly one even surface, and on most minute inspection no mark of structure as usually seen on the surface of the healthy kidney was discoverable. On making a complete longitudinal section, the same gray-white colour pervaded all the cortical part, with little sign of natural structure; the faint appearance which did exist, preserved those marks of lines proceeding towards the surface, which are often more evident in the healthy kidney. The tubular part was also faintly coloured. An external view and a section were drawn with great care, and from them the engravings of Plate IV. Fig. 1. and 2. were executed. The other kidney was injected,—the arteries with red, the veins with yellow size. The injection ran freely from the arteries into the pelvis of the kidney; the general structure did not seem greatly deranged. (Plate IV. Fig. 4. and 5.) After that part of the

kidney which had not been injected had undergone maceration in spring water for about a fortnight, it showed a number of white opaque specks over its whole surface. (Plate IV. Fig. 3.)

This then was a case of general anasarca, connected with most decidedly diseased appearance of the kidney, and scarcely any other organic lesion; but it was not ascertained what had been the condition of the urine.

[While the proof of this page was before me for correction (April 4th) the following case occurred.]

CASE XII.

— GALLOWAY, æt. 22, a watch-case maker by trade, was admitted on the 7th of March, 1827, into Guy's Hospital. He was in a state of general anasarca. It appeared that for the last year or two he had been intemperate in his habits, being often intoxicated with spirits, particularly with gin. About the month of November last, while under the action of mercury for syphilitic disease, he got wet, and soon after this began to show signs of dropsical effusion. A little before Christmas he was admitted into one of the hospitals of the metropolis, and was treated with mercurials for his anasarcaous affection; he left the hospital, however, but slightly relieved. When admitted into Guy's his mouth was still very sore with mercury; he was swollen generally, his countenance was pallid and bloated, and his legs distended with cedema. His urine was scanty, and of a *slightly dingy colour, coagulating decidedly by heat*. Various remedies were employed, but with little effect: he became the subject of seizures of an epileptic character, which returned several times during the last three or four days of his life; and very decided symptoms of inflammatory affection of the chest, with cough and a quick sharp pulse, came on.—He died upon the 2nd of April.

SECTIO CADAVERIS.

On both sides of the chest were well marked signs of recent inflammation of the pleura. A few ounces of serum were effused, in which gelatinous coagula and shreds of fibrin were floating; and both the pleura of the lungs and of the ribs were covered in parts with thin layers of a recent false membrane, presenting a rough and rather reticulated surface. The substance of the lung did not appear altogether to have escaped the effects of inflammation; but the injury done was slight, and every part admitted

air. The bronchial tubes were of a more chocolate colour, from venous congestion, than natural. The pericardium contained about two ounces of clear fluid. The heart was quite healthy in the structure of all its valves, but the parietes of the left ventricle were decidedly thickened. The aorta was quite natural. The liver was a perfect specimen of the healthy organ, without the slightest tendency to hardness or to granulation. The gall-bladder rather small, filled with healthy bile of the usual bright yellow colour. The spleen healthy. The pancreas a little loaded with blood. The stomach and small intestines perfectly healthy. The colon internally speckled with gray, but otherwise not diseased. The KIDNEYS disorganized throughout, smooth in their external texture, rather lobulated, of a pale yellow colour, with a few superficial vessels; and on being examined internally, the same gray yellow colour pervading the whole cortical part, with some more opaque yellow spots irregularly intermixed. The tubular structure pale and indistinct; in a word, approaching more to the condition of the kidneys mentioned in the last case, than any others I have examined.

Here then we have another illustrative example of this most fatal disease. The short history would appear to be, that the kidneys became deranged, perhaps disorganized, by the abuse of spirituous liquors; that in this state the combination of circumstances which gave rise to suppressed perspiration had confirmed the disease; and in its progress, not only anasarca had shown itself, but the pleura had become inflamed, and the head had suffered. To what extent or in what way the head had been implicated, we had no opportunity of ascertaining by inspection; but there could be little doubt that some serious mischief had lately taken place. My diagnosis in this case had been formed entirely from the nature of the urine, and the absence of all symptoms indicative of other organs being diseased; while the general leucophlegmatic aspect of the patient, and the history of the disease, strongly confirmed my judgement.

CASE XIII.

THOMAS DRUGGET, æt. 37, was admitted under my care into Guy's Hospital on the 7th of December 1826. He was a carman, in the habit of drinking a little, while in his work, but by no means an intemperate man, coming home very regularly, and

always passing his evenings with his family. About a fortnight before his admission he was attacked with sickness at the stomach, and shortness of breath; purging then came on, and vomiting: about nine days before admission his face and legs began to swell. The urine had been deficient in quantity the whole time. He complained much of tenderness at the pit of the stomach. Pulse 72, of good strength. Tongue white; the œdema was by no means great; his face looked a little puffy, and his legs were so far swollen that he could not button the knees of his small-clothes.

Applicentur Cucurbitulæ cruentæ Scrob. Cordis et detrahatur sanguis ad f̄xxiv.

Habeat Pulv. Rhei cum Hydrargyri Submuriat. gr. xv. statim.

Mist. Magnesiæ cum Magnes. Sulph. ʒj et Tinct. Camphor. comp. f̄ʒss ter die.

8th. Bowels free: urine about three quarters of a pint in twenty-four hours; *coagulates*. The anasarca by no means considerable, and the symptoms altogether so mild as to excite no particular alarm; he is walking about in the ward, and says he does not feel inclined to remain in bed.

R Potassæ Supertartratis ʒj,

Aquæ puræ f̄ʒx. fiat Mistura quotidie sumenda.

9th. Urine not quite one pint; thinks his swelling rather increased; some feeling of oppression at the chest. He now says that two or three days before his admission he had felt some pain in the loins. Two dejections.

Applicentur Cucurb. cruent. lumbis, et detrahatur sanguinis f̄xxij.

Repetatur Mistura.

10th. Felt much relieved from the weight at the chest by the cupping; legs remain unaltered. Pulse 68, of good strength. Urine rather turbid, about a pint and a half; coagulates, but not so much as before.

Repetatur Mistura.

11th. Detrahatur sanguinis f̄xxij e regione lumborum ope Cucurb. cruent.

Habeat Infusi Lini ʒijss pro potu quotidie.

R Jalapæ Radicis gr. x,

Potassæ Supertartratis ʒj,

Capsici Baccarum gr. j.

Fiat Pulvis quotidie sumendus si opus fuerit.

12th. Urine one pint and a half, dingy as from very slight admixture of blood, coagulates: five stools from the powder, watery, without pain; swelling not relieved.

Adde Potassæ Nitratis ʒijss Infuso Lini quotidie.

Rep. Pulvis pro re nata.

13th. Face rather more swollen; legs diminished; urine about the same quantity, clear, but rather high coloured. Pulse 72.

14th. Feels much better, the swelling less. Urine about the same quantity.

15th. Pulse 72, legs diminished. Urine same quantity, and does not coagulate, but a slight permanent frothy scum remains after boiling.

17th. He was walking about the ward; said that his water was rather increased and his body less swollen: but he did not speak quite so cheerfully of his progress as he had done the day before.

Rep. Pulvis ex Jalapa et Potassæ Supertart. alternis auroris,
et Repetantur Medicamenta.

Towards the evening he complained to some of the patients that his head ached: he slept apparently as usual, which was always with an inclination to snore; he went two or three times to the water-closet about six or seven o'clock, for which he had to walk half the length of a pretty long ward. About eight o'clock it was observed that he lay in bed making a very singular noise, and on going to him he was in a state of profound apoplectic stertor. Mr. Stocker was immediately called; took away twenty ounces of blood from the temporal artery, gave him ten grains of calomel, and a colocyath injection. He had one or two fresh attacks, accompanied with so much convulsion that he could scarcely be held in bed. I saw him at eleven o'clock. Pulse about 96, sharp with a jerk; he lay on his back perfectly insensible, with some inclination to convulsion of the arms, and a convulsive mode of blowing his saliva from his mouth. Pupils rather contracted, particularly the left.

Mittatur sanguis ad f̄xxvj. Olei Tiglii ʒij. Enema catharticum.
Applicetur Emplastrum Cantharidis Nuchæ.

Twelve o'clock: The pulse a good deal lowered just after the bleeding; no dejection. One o'clock: Pulse risen again.

Applicentur Cucurbitulæ cruent. regioni hepatis et detrahatur sanguis ad f̄xxvj.
Repetatur Enema.

He died at nine o'clock.

SECTIO CADAVERIS.

General serous effusion under the integuments, from which the scalp itself had not escaped. About six ounces of clear serum in the left cavity of the chest, and less in the right; about one ounce of serum in the pericardium. Lungs healthy, except some apparently old and sluggish tubercles, two or three in number, at the apex of each upper lobe. Heart healthy. Liver rather soft, but not strikingly so; quite natural in struc-

ture throughout. Gall-bladder healthy. Spleen soft. Stomach and intestines healthy. Arteries and veins perfectly sound and healthy: the lower part of aorta and cava were particularly examined. KIDNEYS very pale and rather soft; discovered externally nothing but the natural structure rather more marked than usual, but internally was plainly to be traced a motley granulation very small and faint in its colour and markings.

On opening the head no morbid appearance was observable in the membranes; the convolutions of the hemispheres were obviously flattened, as is generally the case when any quantity of fluid is effused within; and on slicing off the superior portion and laying open the ventricles, we found them all completely filled with a clot of blood and serum, apparently separated from the effused blood. The right crus cerebri was lacerated, soft, and full of dark bloody spots. It was evidently from this part that the blood found in the ventricles had been effused. The left crus and the portion of brain immediately between the crura was in a similar state with the right crus, but to a much less degree. There were two or three small coagula in the right thalamus, but they appeared to be quite detached. There was a very small spot of the same character in the corpora quadrigemina; the rest of the brain and cerebellum were quite healthy.

In this case the kidney, though most decidedly differing from that organ in its healthy condition, was, as might be expected from the very recent date of the disease, by no means so marked by morbid appearance as in most of the other cases of coagulable urine which I have examined. It may be considered the incipient and perfectly curable stage of this formidable disease; and I have no doubt that but for the accidental rupture of the vessel in the brain, this man might, for a time at least, have recovered perfectly, to all appearance. My treatment was directed in the first place to take off from that general plethoric state of the system, which had been induced by the deficient secretion of urine. This I endeavoured to accomplish by abstracting blood and by free purging; and I hoped, by taking blood locally, more effectually to reduce the irritation of the kidneys themselves. At the same time I wished to urge the kidneys gently to the performance of their secretion; and for this purpose I preferred diluted solutions of diuretic salts, in the employment of which I should certainly have been more active, had I not conceived that I was fast gaining ground; and had I not wished to obtain my object without irritating the kidneys

so much as to produce hæmaturia, which I have so often seen accompany this disease.

In the examination of this patient, the circumstance of the effusion of blood having taken place into the ventricles is somewhat unusual, inasmuch as by far the greater number of cases where blood has been effused show the coagulum embedded in the substance of the brain; and though approaching very near to the ventricle, not entering it. The peculiar convulsive character of the apoplectic seizure is also worthy of remark as connected with lesion in the structure of the crus cerebri.

CASE XIV.

LEONARD EVANS, a Welshman of remarkably stout frame: about ten or twelve years ago said to have been the strongest man out of 1400 in Deptford dockyard; has enjoyed much good health till about two years ago, when he had the syphilitic disease; but this was completely subdued. His occupation of late has been one which has exposed him very much to alternations of heat and cold,—being a journeyman currier; in some part of which business he has often been exposed to cold, when in a state of most profuse perspiration; but his habits have been very sober and steady throughout life. The day before his attack,—about ten days before his admission into Guy's Hospital,—he had been employed in washing skins; his feet were very wet: he found the swelling coming on about six o'clock the same evening, and he continued to swell till the time of his coming into the Hospital, under my care, Nov. 15th. He was at that time labouring under general anasarca to a great extent. Urine very scanty. He had taken very little medicine.

Sumat Extract. Elaterii gr. fs sexta quaque hora.

18th. The swelling rather diminishes.

Extract. Elaterii gr. j bis quotidie.

19th. The pills have purged him very often, with much pain before they act, and much sickness. Pulse 80, full. Urine rather increased: today he first observed the dark-brown tinge in the urine, which is now very obvious, being a mixture of the red particles; *coagulates by heat*.

Rep. Extractum Elaterii mane quotidie.

20th. Urine three pints and a half in twelve hours, which is nearly six times as much as he had passed before; slightly coagulable; turbid, with red particles: feels altogether much relieved: one very copious watery and fæculent dejection.

Sumat Infus. Spartii scoparii lbij quotidie.

Habeat pulverem ex Jalapæ Radice et Potassæ Supertart. alternis auroris.

21st. Swelling a good deal reduced; urine in sixteen hours six pints and a half, of a high brandy colour; does not coagulate.

Repetantur Medicamenta.

24th. Urine six pints from 8 o'clock last night to 8 o'clock this morning, lighter-coloured; scarcely coagulates.

27th. Urine still contains some red particles, and is copious, but does not coagulate; swellings diminish daily.

Extr. Conii gr. v, ter die.

Repetantur Medicamenta.

Dec. 1st. Complains of a pain under his jaw, but the œdematous swellings are nearly gone, except a little on the instep. Urine four pints, coagulates, and contains much blood, looking quite red; three stools yesterday from the powder. Pulse 84, of good strength.

Mittatur sanguis ad f $\bar{3}$ x. Rep. Infusum et Pulvis.

2nd. Blood not buffed, but a firm and large coagulum, quite elastic, like a mould of jelly, and of florid colour. Urine about four pints, very red, with a great quantity of ropy mucus deposited at the bottom. Œdema much subsided. Bowels not yet opened by the powder.

Mittatur sanguis ad f $\bar{3}$ x.

R Antimonii tartarizati gr. $\frac{1}{2}$,

Opii purificati gr. ij,

Theriace q. s.

Fiant Pilulæ ij, quarum sumat unam bis quotidie.

Omitt. Infus. Spartii; habeat Haustum Sennæ pro re nata.

3rd. Blood with thin buff; complains of a sore throat; reports the urine which has been thrown away to be of the same colour as yesterday. He is walking about, and appears much improved upon the whole.

Liniment. Ammoniac gutturi infricandum.

Repetantur Medicamenta.

4th. Urine decidedly less red, but less copious; about two pints, mucous matter at the bottom diminished; it coagulates much more sparingly: throat relieved; he looks rather pallid; tongue moist and clear; pulse moderate.

5th. The whole of yesterday afternoon he seemed well,—was walking about the ward, and seemed comfortable: he slept soundly, but this morning at seven o'clock suddenly complained of a great difficulty of swallowing and breathing, and constriction at his throat and chest. Fourteen ounces of blood were taken from his arm, sixteen leeches were applied to his throat, and an emetic was administered; but all was unavailing,—and at about eleven o'clock he expired: the blood was highly buffed. I

was informed that the urine passed since I saw him was somewhat further improved in appearance.

As I felt assured that this was a case in which neither the general circulation through disease of the heart, nor the biliary secretion through disease of the liver had any direct influence in the production of the Anasarca, but could not doubt that the kidney was more immediately the seat of the derangement,—I was very desirous of obtaining an examination, to ascertain whether any change had taken place in that organ, which could betray itself to the eye ; and this was at length granted, at the late residence of the patient, about sixty hours after death.

SECTIO CADAVERIS.

No sign of effusion of serum into the cellular membrane of the integuments ; muscles of the body unusually strong ; limbs rigid. Lungs rather gorged with blood ; otherwise in structure quite healthy. Heart and pericardium quite healthy. In the cavity of the chest on each side about four ounces of fluid ; in the right cavity the serum of a red colour, the lung adhering by old adhesion on the front part, and there was great congestion of blood in the back part by subsidence after death.

The liver rather gorged with blood, but perfectly healthy in structure. Spleen so soft that when the tunic was lacerated, the substance of the viscus flowed out of a chocolate colour. Stomach and intestines healthy ; no effusion of serum into the cavity. The bladder contained about three quarters of a pint of clear and yellow urine, which was not coagulable, or at least yielded only the slightest flaky coagulum ; but some mucus had subsided to the bottom. The KIDNEYS presented a very curious appearance ; they were easily slipped out of their investing membrane, were large, and less firm than they often are, of the darkest chocolate colour, interspersed with a few white points, and a great number nearly black ; and this, with a little tinge of red in parts, gave the appearance of a polished fine-grained porphyry or greenstone. On cutting longitudinally into the kidney, this structure and these colours were found to pervade the whole cortical part ; but the natural striated appearance was not lost, and the external part of each mass of tubuli was peculiarly dark ; the whole mammillary processes were also of a dark colour. On being cut through and left for some time, a very considerable quantity of blood oozed from the kidney, showing a most unusual accumulation in the organ ; and indeed it

seemed to be from this cause that the peculiar appearance and colour arose; the very dark spots being the effect of blood either extravasated or in vessels greatly gorged. I had an opportunity of procuring very faithful drawings of the kidney. (Plate V.)—We next examined the epiglottis; and this we found to be thickened by an œdematous effusion beneath the membrane on its upper side: it was bent into the form of a penthouse with a sharp angle; and the lower surface was also thickened, and presented a doubtful appearance of superficial ulceration. When the epiglottis was cut into, a considerable quantity of serous fluid was easily squeezed out; and on the whole the opening was much contracted, and the epiglottis completely disqualified for performing its natural valvular functions.

There could then be no doubt of the nature of the attack under which the patient sunk so rapidly: inflammation of the epiglottis had been followed by œdema of that part which had produced suffocation.

In this case we have the most unequivocal proof of the derangement of the kidney being connected with the extensive and sudden occurrence of anasarca:—there could indeed be no doubt of this, from the first moment that I had an opportunity of seeing the patient. The coagulable urine, —and that urine already containing the red particles of the blood in large abundance,—led me from the beginning to form my opinion as to the seat of the disease. Moreover, dissection showed no other adequate cause for the dropsical affection: and as during life no suspicion could be entertained that either the liver, the intestines, the heart, or the lungs were diseased, so the examination showed all these organs to be in a state of perfect health. I feel that it may be matter of doubt how far the employment of diuretics during such diseased tendency may have been instrumental in producing the peculiar appearance of the kidneys; but it is to be remembered that the particular symptom, the hæmaturia, which appears so immediately connected with this morbid state, has been observed to occur in a greater or less degree under all modes of treatment, and even before any treatment has been adopted in the sudden anasarca, and therefore we cannot in fairness ascribe the morbid appearance of the kidney to the remedies,—or at all events we must admit a certain high degree of disease to have existed in that organ from the commencement of the symptoms; but whether to the extent discovered in this case after death or not, we can never determine. The symptom of hæmaturia was evidently

on its decline when the accident occurred which led to a fatal termination; and it was my intention in this case, as in the case of FISH, (to be related hereafter,) to have had recourse to local bleeding by cupping from the loins, as soon as the excessive general action had been sufficiently subdued: and very possibly if the sudden affection of the epiglottis had not come on, the disease in this case would for a time at least have completely yielded, as the symptom of anasarca had already totally disappeared, under the treatment adopted.

CASE XV.

WILLIAM RODERICK, æt. 45, was admitted under my care into Guy's Hospital, on the 29th of March, 1826. A man of large stature, by trade a house-carpenter, much accustomed to drinking spirits. Three weeks before Christmas,—about four months previous to his admission,—he first found himself out of health: at that time he says that he experienced much pain in the right side near to the situation of the liver, accompanied by occasional rigors and cough, and he lay always on the right side. All these symptoms have subsided by the use of medicines, and he now lies well on either side. He is universally swollen with anasarca in a most unusual degree; particularly the legs, thighs, abdomen, and back as high up as the shoulders. He can scarcely bend his knees the least, and his hands are puffy: it appears that the left arm is more swollen than the right; but this may be casual. Countenance pallid. Bowels regular. Urine scanty and high coloured. Pulse 84, regular, of tolerable strength. Tongue rather dry.

Sumat Pilul. Scillæ cum Hydrarg. Oxyd. ciner. iij. et Digitalis fol. contrit. gr. j. omni nocte.—Habeat Infusum Juniperi pro potu.

March 30th. Bowels not sufficiently open. Urine one-third of a pint in twenty-four hours, turbid on standing; but on the application of heat becomes for a few moments perfectly transparent, and then *coagulates* in a most marked degree, so as to form one curdled white mass.

R Jalapæ Radicis gr. x,

Potassæ Supertartrat. ʒj. Fiat pulvis statim sumendus.

31st. Œdema rather increased: urine in appearance and quantity nearly the same.

R Aceti Scillæ ℥xx,

Spirit. Ætheris nitric. ℥xx,

Liquoris Ammoniac Acetatis fʒvj,

Aquæ Menthæ viridis fʒvj;

Misce fiat Haustus quarta quaque hora sumendus.

Pil. Scillæ cum Hydrag. Oxyd. ciner. iij. omni nocte.

April 3rd. He has taken his medicines regularly; the swelling of the legs has much subsided. Pulse 88, rather weak.

Habeat Olei Ricini f3vj statim.

5th. R Oxymellis Scillæ f3ij,
Potassæ Supertartratis contritæ 3iij;
Misce sumat cochleare medium ter quotidie.
Repetantur Haustus et Pilulæ.

7th. Urine the same in quantity, clear, brownish. Bowels confined.

Pulv. Jalap. cum Potass. Supertart. 3fs. cras mane, et repetatur pro re nata.
Repetantur etiam Medicamenta.

14th. A blush of red over the right thigh and the pubes. Anasarca generally increased. Bowels inclined to be costive; he feels relief when they act.

R Extracti Elaterii gr. ʒ,
Potass. Supertartrat. gr. iij,
Zingib. Radicis contritæ gr. j;
Misce fiat pulvis statim sumendus, et Repet. quarta quaque hora ad sedes.
Repetantur Medicamenta.

15th. The powder produced much vomiting, but no stools.

R Extracti Elaterii gr. ʒ,
Potass. Supertartrat. gr. v,
Zingib. Radicis contrit. gr. j;
Misce fiat pulvis statim sumendus.
Repetantur Medicamenta.

17th. He was much purged and vomited by the powder; stools watery. Much better in the afternoon; but the relief was only temporary, and he is nearly in the same state as before.

Repetatur Pulv. Elaterii cras mane, et continuantur Medicamenta.

19th. Again felt much relief from the powder, which produced vomiting, and was followed by many watery stools; the œdema was diminished, but it has returned.

24th. Opii gr. j omni nocte, et continuantur Medicamenta.

28th. Rather improved. He has passed more urine, but it is still very coagulable by heat.

May 1st. R Cambogiæ Gummi-resinæ contritæ gr. x,
 Potassæ Supertartratis gr. xx,
 Zingib. Radicis contritæ gr. ij,
 Syrup. Zingiberis quantum sufficiat : fiat Bolus statim sumendus.
 Habeat Mistur. Camphoræ fʒix cum Liqu. Ammon. Acet. fʒiij et Tincturæ
 Digitalis ℥x ter die.

5th. On examining the state of the chest by means of the stethoscope, it was found to be resonant where the external œdema admitted of the examination. There was a general sonorous rattle throughout the lungs; little impulse in the heart's action; the sound not loud but clear.

Sumat Extract. Elaterii gr. ¼ cum Potass. Supertartrat. gr. iv, sexta quaque
 hora ad sedes; et Opii gr. j omni nocte.

8th. Upon the whole there had been little progress towards improvement, all the symptoms remaining very nearly as at the time of admission six weeks ago.

R Potassæ Supertartrat. ʒss,
 Aquæ destillat. fʒx;
 Fiat Mistura mane quotidie sumenda.

10th. Rep. Mistura bis quotidie.

12th. The swelling in general is slightly diminished. Urine decidedly increased; still coagulates by heat, but not so completely as before. Several watery dejections.

15th. Continues to pass more urine: the medicine still acts gently upon his bowels.

19th. Swelling is decidedly diminished. Urine increased to two pints, remains coagulable by heat. Bowels relaxed, several watery stools.

22nd. Hands much less swollen; thighs as before: the medicine still acts freely on the bowels. Urine unaltered in its quality.

R Pulv. Uvæ Ursi ʒj,
 Pulv. Conii gr. iij;
 Fiat Pulvis ter die sumendus. Repetatur Mistura.

26th. Anasarca diminished. Urine nearly the same.

Repetatur Pulvis et sumat Misturam bis quotidie.

29th. Urine not so coagulable. Feels himself better; still considerably swollen.

June 2nd. Urine much increased, nearly three pints. The knee joints can be bent, and the anasarca of the whole body is much diminished. Urine scarcely the least coagulable. Bowels bound.

Sumat Potass. Supertart. ʒvj; ex Aquæ puræ fʒxv bis die.
 Repetatur Pulvis.

5th. The swellings subside gradually and regularly; the urine increases. He complains of the taste of the medicine.

Adde Syrupi simplicis f $\frac{3}{4}$ Misturæ; et continuatur Pulvis.

9th. Urine six pints in twenty-four hours, *does not coagulate*. Bowels freely open.

26th. Urine of a dark olive colour, turbid, and of ammoniacal odour. Coagulates very slightly.

July 3. The urine, which had become quite clear for three or four days, is now again brown and turbid, and deposits a white sediment, which sticks to the vessel: odour ammoniacal, scarcely the least coagulable by heat.

The urine became again clear in a few days. He continued the same remedies uninterruptedly to the end of July, when he was completely cured, having been detained a few days by a slight feverish attack.

In this patient the extent of the anasarca and the coagulable quality of the urine were both of them more remarkable than I ever before observed. After his admission under my care, no symptoms at any time induced me to consider the liver in the least implicated in the disease. The account, however, which he gave of his previous symptoms,—the pain in the right side, and the difficulty of lying on the left,—induced me to employ for some time a mild form of mercury in moderate doses, combined with the squill. I did not perceive any advantage to arise from this remedy during the period of nearly a month, for which time it was continued; nor did the other remedies which were from time to time added, produce any permanent good effects: and if at any time relief were experienced during the continuance of this plan, it was only when on the 24th of April he took a grain of opium at bed-time; or when active purgatives, more particularly elaterium, produced watery evacuations. The elaterium, however, distressed him much, and its good effects appeared but temporary. At the expiration of six weeks very little ground had been gained. I then resolved to give a full trial to the supertartrate of potash; and the good effects were almost instantaneous, in increasing the secretion of the kidneys, and in producing absorption of the effused fluid: still, however, the coagulable quality of the urine in a great degree remained, and my impression that the unhealthy and irritated state of the kidneys themselves was probably the great source of the anasarca, led me to adopt the use of the uva ursi and the conium. This was about a fortnight after the supertartrate of potash had been commenced; and although there were some very un-

equivocal marks of irritation subsisting in the kidneys, all this subsided, and there was no occasion to change the remedy till the cure was apparently complete.

He remained quite well for four months, when being exposed to wet and cold his legs began to swell; and one month after, on the 11th of December, he was again admitted into the hospital. At this time his legs were greatly swollen, hard, and decidedly œdematous. Urine *coagulated strongly by heat*. Pulse 80, of good strength. Resp. 24, with occasional cough, particularly when lying. Since his present illness has had irregular cold shivering fits every two or three nights; denies having any pain either with or without pressure; no palpitation or beating of the heart.

Applicentur Cucurbitulæ cruentæ Lumbis et detrahatur sanguis ad fʒxij.
Sumat Infus. Lini lbij quotidie.

12. The cupping performed by mistake across the chest, has relieved the cough a good deal. Urine two pints in fifteen hours; moderately high coloured, with a flocculent sediment.

13th. Urine more clear in colour, three pints in fourteen hours. Two stools from an opening powder; but it made him sick.

14th. Urine almost the same in quantity, scarcely becomes clouded by heat.

Habeat Pulv. ex Jalapa et Potassæ Supertartrate mane quotidie si opus fuerit.

15th. Urine rather less; coagulates more. Two stools this morning without sickness or griping. Takes lbij of the infusion of linseed every day.

Adde Sodæ Subcarbonatis ʒj Infuso Lini quotidie.

20th. Urine nearly two pints, clear, rendered very slightly turbid by heat. Pulse 84. Bowels opened six or seven times from every powder.

Pulv. Rhei cum Hydrargyri Submuriate gr. xv cras mane.

25th. Swelling increased. Urine one pint, coagulates. Bowels not well opened. Pulse rather sharp.

Mittatur sanguis ad fʒxij. Repetatur Infusum Lini.

26th. Urine one pint; coagulates by heat. Blood firmly coagulated and buffed.

R Potassæ Supertart. ʒls,

Aquæ destillatæ fʒx,

Syrup. simpl. fʒj: fiat mistura quotidie sumenda.

Habeat Haust. Sennæ pro re nata.

27th. Urine about the same in quantity, has a slight cloud in it; coagulates by heat. He did not begin his supertartrate of potash till this morning.

28th. Urine two pints; coagulates less, but becomes cloudy: two stools. Pulse 80, of good strength.

29th. Four tolerably healthy stools passed with a good deal of urine; two pints saved. Pulse 96. He finds the swelling increase towards night.

31st. Urine does not coagulate.

January 1st. The swelling has a tendency to increase. Urine four pints in forty-eight hours; coagulates. Pulse active. Bowels freely open.

Mittatur sanguis ad f $\frac{3}{4}$ x.

Opii grfs bis die. Repetatur Mistura.

2nd. Much relieved in every respect. Urine three pints in sixteen hours; two stools; swelling diminished.

3rd. Urine three pints in sixteen hours; does not coagulate, but becomes rather milky by heat. He passed a good night, feels much more comfortable, and is less swollen. Pulse 72, rather weak. He says he is not at all thirsty, and avoids drinking as much as he can.

4th. Better in all respects. Urine in same quantity; does not coagulate at all.

5th. Pulse 88, moderate. Urine the same; does not coagulate: swellings diminished.

6th. Pulse 88, rather more sharp, but he thinks himself improving; always finds the left leg and thigh swell most. Urine one pint and a half, in the slightest possible degree milky by heat: one stool. He takes daily about one pint and a half of the mixture of supertartrate of potash.

7th. Urine *not in the least degree coagulable*; two pints in sixteen hours; other urine passed with three stools. Pulse 84, rather weak; swelling much diminished, very little œdema remains except in the left leg.—To have a mutton chop.

Continuantur Medicamenta.

At this period of his disease, it appeared as if he were again rapidly approaching to a state of convalescence; but unfortunately, without any obvious cause, his disease took a less favourable turn; his bowels became disordered; his urine in the course of two or three days became nearly as coagulable as ever: and in spite of a great variety of remedies, he still (April 5th) remains under my care, with all the symptoms of confirmed disorganization of the kidneys: a tendency to anasarcaous effusion only moderated by the most constant attention, and a scanty flow of urine always decidedly coagulable, but varying a little from day to day.

CASE XVI.

MARY FITZGERALD, æt. about 30, was admitted under my care into Guy's Hospital, October 4th, 1826. Her usual employment was needle-work, and she had generally enjoyed good health. She considered herself quite well on going to-bed ten days ago, but when she rose on the following morning found her feet much swollen. Since that time the anasarca swelling has extended over her whole body and face: her breath was very short at the time of admission, with frequent dry cough, particularly troublesome when in bed. Pulse 84, sharp: her general appearance bloated and leucophlegmatic. Urine scanty, *coagulating by heat*.

Mittatur sanguis e brachio ad f̄x.
 R Potassæ Supertart. ʒj,
 Aquæ destillat. ij℔;
 Fiat Mistur. quotidie sumenda.—Low diet.

5th. The blood has not separated very completely: the serum is quite transparent: face and legs less swollen; one dejection. Urine about a pint and a half; coagulates slightly, forming a permanent scum at the top when boiled. Cough very troublesome.

6th. Urine increased; swelling gradually subsiding.

9th. Urine copious. Bowels regular; swelling subsiding.

13th. Complains of an acute pain in the left side below the ribs, running backwards, which has now continued for forty-eight hours.

Applicentur Cucurbitulæ cruentæ parti dolenti, et detrahatur sanguis ad f̄xxij.
 Rep. Medicamenta.

16th. Swelling entirely gone. Pulse 80, of good strength. Urine copious. Skin perspirable. Bowels confined.

Pulveris Jalapæ cum Potassæ Supertartrate ʒfs pro re nata.
 Repetatur Mistura Potassæ Supertartratis.

20th. Completely convalescent.—She went to the Convalescent ward, and was dismissed in a few days.

This was a very recent case of anasarca with albuminous urine. I employed general bleeding in the first instance, and then pursued the simple plan of saline diuretics and purgatives, because I had found such manifest advantage from the same plan in the first attack of this disease which RODERICK had experienced; the plan answered, I confess, beyond my most sanguine expectation.

CASE XVII.

FRANCIS FISH, æt. 26, was admitted under my care into Guy's Hospital, October 4th, 1826. He was a stout man, tall and well proportioned, who had been employed as a porter to a broker, and had often been occupied in beating feather-beds on the top of a house; and was consequently much exposed to changes from heat to cold. His general health had always been good; and according to his own account he had been a sober hard-working man, nor did his appearance lead to a contrary opinion.

About a month before his admission he felt feverish with headache; he took some remedy, which he believes was mercurial; was afterwards exposed to the air, and thinks he caught cold by that means. The night after the exposure or the same night he began to swell, and this he first observed in the legs and the scrotum; the swelling went on increasing; and at the time of his admission he was greatly swollen in every part, particularly his thighs and legs; and the cellular tissue of the abdomen was quite filled with fluid, as was that of the scrotum. Pulse 110, rather sharp: bowels relaxed: slight cough. I could not learn the quantity of the urine passed; but what I saw was very high coloured, *coagulating* by exposure to heat more completely than I have almost ever seen; becoming nearly one white curdlike mass. There was nothing either in the countenance or the symptoms which pointed out the least hepatic derangement.

Mittatur sanguis ad f $\frac{3}{4}$ x.—Low diet.

5th. Blood neither cupped nor buffed, serum milky. Urine one pint and a quarter, of a turbid yellow sandlike colour. Bowels not open. Pulse 80, of good strength: swelling unaltered.

R Potassæ Supertartratis ʒj,

Aquæ puræ ℥ij.

Misce et sumat quotidie pro potu.

6th. Reports that he has passed considerably more urine; one lax stool. Anasarca slightly diminished. Pulse 96, rather sharp.

9th. Urine nine pints in the last forty-eight hours, besides some passed with his stools: four or five relaxed dejections daily. Urine high coloured, clear; coagulates much less, but still becomes milky on exposure to heat. Thighs reduced one inch and a half in circumference, the calf of the leg the same. Abdomen so much smaller that his waistband nearly meets. Pulse 80, natural.

11th. Urine high coloured: bowels open. He continues to improve.

13th. Very little œdema left in the thighs; legs also diminished. Urine five pints in twenty-four hours, besides what passed with stools; high coloured: scarcely in the slightest degree coagulable by heat. Pulse 80. Bowels costive.

Habeat Pulveris Jalapæ cum Potassæ Supertart. ʒfs statim.
Continuatur Mistura.

16th. Urine diminished, though still copious. Pulse 96. He speaks of a sense of uneasiness, though inconsiderable, in the loins.

Applicentur Cucurb. cruent. regioni Lumborum et detrahatur sanguis ad f̄3x.

℞ Pulv. Uvæ Ursi gr. x,
Sodæ Subcarbon. gr. x,
Pulv. Conii gr. ij; fiat pulvis ter die sumendus.

Repetatur Mistura.

20th. No swelling remains except at the ankles and insteps. Urine about four pints in twenty-four hours, high coloured; does not coagulate at all. Bowels rather confined. Perspires a good deal at night; appears weakened.

Repetatur Pulvis purgans et continuantur Medicamenta.—Middle diet.

23rd. Urine red-coloured from slight admixture of blood. Anasarca almost completely gone, very slight about the feet. Skin perspirable. Urine throws up a slight frothy scum on boiling, which remains; four pints in seventeen hours.

Omittatur Pulvis ex Uva Ursi, Soda, et Conio; et Rep. Mistura.

26th. Urine about five pints in twelve hours, rather less red: bowels inclined to be costive.

℞ Potass. Supertart. ʒfs,
Aquæ puræ ℥j fiat Mistura quotidie sumenda.

Habeat Infusum Cascarillæ cum Tinct. Cascarillæ. ter die.
Haust. Sennæ mane quotidie.

30th. Pulse natural. Very slight swelling occasionally observed at the ankles. Urine five pints in fourteen hours, brownish. Complains of cough, but looks well.

Linctus Opiatus pro re nata, et Rep.

November 6th. No remains of œdema. Urine very copious, still of a dusky colour, coagulates considerably; three pints in sixteen hours. Pulse 106, compressible. Still some cough.

℞ Potass. Supertart. ʒij.
Aquæ puræ ℥ss fiat Mistura quotidie sumenda.

Applicetur Emplast. Cantharidis Lumbis, et Repetantur alia.

8th. The blister, which was only to be kept on till it rose and then immediately removed, remained on about ten hours, rose well, and discharged. Urine copious, of a dark colour, coagulable. No stool yesterday: has perspired freely.

Haust. Sennæ et Rep.

10th. Has been sick at the stomach. Slight tenderness at the pit of the stomach. Urine high coloured. Pulse quick.

R Antimonii tartarizati gr. $\frac{1}{4}$,
Opii contriti gr. j,
Theriace q. s.

Fiat pilula bis quotidie sumenda.

Decoct. Lini pro potu.

Applicetur Cataplasma Lini lumbis.

13th. Complains of sickness and vomiting every morning between nine and ten o'clock: this does not return during the day, but he sometimes experiences slight nausea. Bowels costive. Urine as before. Tongue moist, rather red. The cataplasm is still applied; but he denies having any internal pain in the loins.

Olei Ricini $\mathfrak{f}\mathfrak{ss}$ hora somni omni nocte

Pil. Saponis cum Opio ter die.

16th. Much relieved; stomach is nearly well. Urine less brown, but still coagulates.

17th. Urine five pints in fourteen hours. He is still hoarse, and appears to be losing flesh; frequently complains of hunger.

Sulph. Quininae gr. j ter die.

et Rep. Pil. Saponis cum Opio.

20th. Very slight coagulation in the urine.

Rep. Sulph. Quininae et Pil. Saponis cum Opio omni nocte.

24th. Urine four pints in fifteen hours. Pulse 100, moderate. Still coughs a little, but does not seem to suffer from it.

27th. Urine dingy, in sufficient quantity; still shows a slight flocculent coagulum on the application of heat.

Julep. Acidi nitrici $\mathfrak{f}\mathfrak{ss}$ quotidie.

December 1st. Urine scarcely coagulates at all, still of a reddish colour. He complains of nothing but a frequent desire to pass his water.

3rd. Appears perfectly well. His urine of a natural colour as nearly as possible.—In a few days he left the hospital.

This was a case of anasarca in which there was not the slightest evidence of any internal organ except the kidney being deranged. The origin of the disease was pretty plainly traced to exposure to atmospheric changes; the cure was effected by a simple and nearly undeviating plan, in which I

was led from experience to have placed some confidence. Moderate bleeding and a low diet, with the administration of saline diuretics, increased the daily flow of urine from a pint and a quarter to four pints and a half, before the plan had been five days adopted. The coagulable nature of the urine likewise diminished, and the swelling subsided rapidly. At the end of about ten days more, obvious symptoms of renal irritation showed themselves: which might indeed have arisen from the continuance of the diuretic treatment; but I was induced to view it rather as a natural variation of symptoms, seeing that in a great majority of the cases which I had lately witnessed, hæmaturia was present in a greater or less degree. The blister which was applied on the 6th, under a hope that the external irritation might produce a favourable change in the action of the kidneys, increased the irritation, and the stomach sympathized strongly. This temporary irritation yielded to demulcents and opium. The kidneys were still decidedly deranged in their action; the quantity of urine passed was rather in excess; and the loss of flesh, together with the unusual hunger experienced, gave some room for drawing an analogy between the present state of the disease and *diabetes insipidus*. I thought it probable that in this state of things, tonics combined with opiates might do much; the sulphate of quinine was used with advantage, but afterwards the nitric acid seemed to exert a still better influence.

In two months after his first admission he was so far cured as to have no evidence of disease remaining, and four months have now passed (April) without any recurrence of symptoms. I do not however feel at all sanguine that he will be free from relapse; for I see no reason to doubt that at one period his kidneys were in a condition exactly analogous to that of EVANS, and possibly, as in that case, the white granular deposit had already in some degree taken place.

CASE XVIII.

WILLIAM BROOKS, æt. 57, was admitted under my care into Guy's Hospital, October 25th, 1816. He was a sawyer, habitually healthy. About six weeks ago he perceived his ankles swell; and this has gradually increased: the whole thighs and scrotum are now œdematous; and this to such an extent, for the last fortnight, that he has been prevented from working. Slight tenderness at the pit of the stomach. Urine reported not very scanty. (Low diet.)

R Potassæ Supertartratis ʒj,
Aquæ puræ lbij.

Fiat Mistura pro potu.

Sumat Pulveris ex Jalapa et Potass. Supertartrate ʒj statim.

26th. Pulse 48, somewhat labouring; much pain in the forehead, particularly in the right temple; occasional giddiness: lies down well in bed. Urine one pint and a quarter, of a *dingy* colour, but clear; *coagulates by heat*.

27th. Urine much the same; complains of pain in the stomach and bowels: the bowels confined.

R Ol. Ricini fʒss,
Tinct. Rhei fʒij,
Aquæ Menth. pip. fʒvj. M.

Fiat haustus statim sumendus.

29th. Repetatur Mistura pro potu.

30th. The drink disagrees with the stomach. Pulse 58. Urine one pint and a quarter.

Mittatur sanguis ad fʒviij.

R Liquoris Ammon. Acet. et Aquæ Menth. viridis āā fʒvj,
Spirit. Ætheris nitrici fʒss,
Acet. Scillæ ʒxx,
Spir. Armoraciæ Comp. fʒss.

M. fiat haustus sexta quaque hora sumendus.

Habeat Pulveris Jalap. cum Potass. Supertartrate ʒss.

31st. Coagulum of blood small, not firm: serum turbid. Pulse 60. Urine unaltered; feels somewhat relieved.

November 3rd. Urine two pints and a half; colour more natural; coagulates much less: frequently complains of pain in the head with some noise and confusion. Pulse 72, strong. Bowels confined.

Applicetur Empl. Cantharidis Nuchæ.

Habeat Pulver. Jalap. cum Potass. Supertartrate ʒij.

5th. A good deal oppressed, and complains of headache.

Rep. haustus tertia quaque hora.

6th. Still complains of noise in the head and deafness on the left side. Pulse 64, full; anasarca of limbs rather increased. Urine two pints in fourteen hours, clear, and of good colour.

Infus. Spartii scopar. pro potu, et repetantur Medicamenta.

8th. Has taken about one pint and a half of the infusion; considerably relieved;

rests better: head less painful. Urine quite clear, three pints in eighteen hours; coagulable, becoming milky by heat.

10th. Urine above four pints, healthy in appearance. Pulse 74, strong. Head much relieved, feels better, but the œdema remains. He mentioned to-day for the first time, that he has occasionally felt palpitation of the heart while at work, and the action of the heart seems to be labouring.

11th. Feels much relieved: takes his medicine every three hours, and from one pint to one pint and a half of the infusion daily. Urine abundant; coagulates less. Bowels regular.

13th. The thighs are reduced five inches in circumference. Urine four pints in sixteen hours, rather dingy.

17th. Continues to take the mixture every three hours, and a pint of the infusion daily: the œdema is subsiding. Urine about three pints and a half; coagulates much less, and is nearly natural in colour.

20th. Complains much of a short cough.

Linctus opiatum cum Vino Ipecacuanhæ pro re nata. Repetantur Medicamenta.

24th. By a mistake of the nurse he has been taking a grain of Calomel and half a grain of Opium, night and morning for the last three days; and I now find him completely salivated, although I had stated my resolution of giving him no mercury. He has passed very little urine for the last two days; none during the last night: it coagulates as much as at first. Pulse 96, strong.

Habeat Julepi Acidi nitrici ℥ss cum Tinct. Opii fʒss, pro Gargarismate.

Sumat Pulv. Jalap. cum Potassæ Supertartrate ʒij statim, et Rep. Medicamenta.

25th. Urine one pint in eighteen hours, coagulates strongly: two or three stools.

27th. He has not resumed the infusion or the mixture. The swelling has not returned; but the urine is scanty and coagulable. Ptyalism subsiding.

Habeat Infusum Spartii scoparii pro potu.

28th. Urine about one pint and a half since last night with ropy sediment. He has only taken the infusion once.

Dec. 1st. Urine less than one pint in twenty-four hours. Pulse 96, small but rather sharp.

Infus. Juniper. cum Potass. Acet. ʒj, et Sp. Armoraciæ comp. fʒj, sexta quaque hora.

Fotus Papaveris regioni lumborum.

2nd. Rather improved in appearance and feelings. Urine still very scanty; no swelling of the legs. Fomentation not used.

4th. Urine one pint in sixteen hours. Ptyalism not yet subsided.

5th. Two stools in the night. He was seized suddenly yesterday evening with

most violent pain in the loins, which still continues in some degree. Urine about one pint and a half; coagulates. Cough constant, as from some obstruction about the throat.

Infricetur Liniment. Terebinthinæ Lumbis.

Applicetur Emplast. Cantharidis Gutturi.

Olei Ricini fʒiſ cum Tinctura Opii ʒiij statim, et Rep. Medicamenta.

6th. Blister not applied, but he feels better.

Rep. Oleum Ricini cum Tinctura Opii, et Medicamenta alia.

Applicetur Emplastrum.

7th. Improved. Urine three quarters of a pint. One stool.

Rep. Ol. Ricini cum Tinctura Opii.

8th. Much improved in general health. Urine three quarters of a pint, and forms a copious flaky coagulum by heat.

Infus. Lini pro potu, et Repetantur alia.

11th. Pulse 80, moderate. He is quite recovered from the effects of the mercury. Urine about one pint and a half, turbid, becomes clear by heat, and does not coagulate. He takes about one pint of linseed tea daily.—(Mutton chop.)

15th. The urine saved, two pints and a half; and nearly an equal quantity is said to have been passed with his dejections: it is clear, and coagulates a little. Very slight œdema may still be discovered about the instep.

Adde Infuso Lini lbj, Sodæ Subcarbon. ʒſs.

Rep. Medicamenta.

18th. In the evening he felt much oppressed in his breathing, and said he almost lost his senses.

Mittatur sanguis ad fʒviiij, et Rep. Medicamenta.

19th. The serum of the blood is turbid, and in large proportion: he felt relieved by the loss of blood. Pulse 72, rather labouring. Urine about two pints and a half, perfectly clear, does not coagulate. Complaints of dulness in the head.

Applicantur Cucurb. cruentæ inter scapulas, et detrahantur sanguinis fʒx.

Rep. Medicamenta.

20th. A good deal relieved by cupping. Pulse 84, rather labouring. Urine two pints and a half, quite clear.

Rep. Medicamenta.

21st. Feels better. Pulse 80, less labouring. Urine light-coloured, but not quite clear; not coagulable: two pints saved, more has been passed. Two dejections.

26th. Urine three pints in eighteen hours; *not the least coagulable*. Pulse 80, of good strength: appears quite well.

29th. (Middle diet.)

Jan. 1. Swelling returned a little at the ankles. Pulse 84, rather labouring. Urine three pints in eighteen hours; still does not coagulate. Appetite good, and in all other respects he appears well.

Mittatur sanguis ad $f\frac{3}{4}x$.

Omit. Medicamenta, sed Rep. Oleum Ricini pro re nata.

2nd. Let rollers be applied to the legs. Serum of the blood milky.

5th. Urine not the least coagulable, clear, and in sufficient quantity. No complaint.

7th. Urine clear, light-yellow, two pints and a half since last night, not the least coagulable.

This was a case of anasarca with coagulable urine having all its characters well marked. There was no evidence either of hepatic disease or of derangement in the structure of the heart or lungs; but the urine loaded with red particles seemed to bespeak decided renal affection. I attempted in this case to adopt the plan which had proved successful in the two last cases; but the stomach would not bear the quantity of saline fluid, and I was obliged to have recourse to other diuretic combinations, which acted very favourably. It was necessary to pay attention to the bowels; and symptoms of local congestion more particularly in the head, rendered it a matter of security at least to take away blood occasionally. I had purposely abstained from the employment of mercury; and its accidental exhibition was undoubtedly attended by injurious consequences at the time, as will be immediately seen by a comparison of the reports just preceding the 20th of November, with those of the following days. How far it was ultimately beneficial or injurious, is still a matter well worthy of consideration. The fact that this was a successful case, is at least sufficiently important to induce us to hesitate in denying any salutary efficacy to the mercury. Although the improvement had begun in the coagulable quality of the urine before the mercury was taken by mistake, and that morbid state did manifestly increase greatly during the mercurial action; yet when the salivation subsided, his condition did not appear to be worse than it was before, and we find the symptoms yielding rather easily to the different diuretics which were then administered. In this stage of the disease, at the beginning of December, it appeared to me that he derived great relief

from the use of the turpentine liniment rubbed morning and night upon his loins. It was not however till the 11th of December, when the sensible effects of the mercury had subsided, that the quantity of urine began to increase, and its tendency to coagulate gradually to cease.

CASE XIX.

ROBERT SPOONER was admitted into Guy's Hospital, under the care of Dr. Back, November 29th, 1826, in a state of general anasarca; he was a stout-looking man, aged 50; and having been employed as a pewterer, was in that occupation a good deal in the habit of being exposed to the heat of fires. A fortnight before his admission he was apparently in perfect health; at that time he first found his legs to swell. After three days he began to take some pills and draughts, which he continued till his admission; and after taking them about eight days he found his mouth become sore; he observed his urine to be dingy and brown in colour about the same time. The quantity of urine has not increased; it is about a pint and a half in twenty-four hours, coagulating by heat. Pulse full.

Mittatur sanguis ad f $\frac{3}{4}$ xvj.

R Pulv. Jalapæ gr. xx,

Hydrarg. Submuriat. gr. v. statim sumendus.

Habeat Solutionis Potas. Supertartrat. Ibj quotidie.

Pil. Scill. comp. gr. v cum Hydr. Oxyd. ciner. gr. fs, omni nocte.

Nov. 30th. Bleeding relieved him. Urine not increased, but swelling diminished. December 1. In the afternoon was seized with great dyspnœa, with a full throbbing pulse.

Mittatur sanguis ad f $\frac{3}{4}$ xij.

Sumat Pil. Conii gr. v cum Pulv. Digital. gr. j, quarta quaque hora ex Julepo Oxy mellis.

Four hours afterwards, the symptoms being but little relieved and the blood highly buffed,

Repetatur detractio sanguinis ad f $\frac{3}{4}$ xvj.

2nd. Much relieved by the last bleeding; the blood not buffed. To-day he appears much reduced in strength; breathes with great difficulty; looks pallid. Urine dingy, coagulating by heat.

Pulver. Jalap. cum Hydrarg. ʒj statim.

Rep. Medicamenta.

3rd. Still complains of some difficulty of breathing. Pulse rather sharp. Urine of a lighter colour.

Applicetur Emplast. Cantharidis Sterno.

4th. He seems improved, the swelling being diminished, as well as the difficulty in lying down. The urine rather more copious; still dingy; coagulates by heat, rising from the sides of the spoon in dense clouds. Pulse quick, and rather sharp.

5th. Urine of a florid blood colour. His countenance is pallid, and his face puffy.

Repetantur Pulv. purgans, et Medicamenta alia.

8th. The cedema still remains, both in the face and the legs, and slightly in the hands. Pulse full and frequent; he feels, however, generally improved; passes more urine, and is less swollen.

9th. Urine more scanty than for three or four days; about thirteen ounces in twenty-four hours; reddish brown, from the admixture of red particles, some of which gradually subside to the bottom of the vessel; coagulates into a completely curdled fluid by heat. Complains of no pain.

Sumat Pulv. Jalap. cum Calomel. gr. xv quotidie mane.

Misturæ Potas. Supertartrat. ℥j quotidie.

Pil. Scillæ cum Hydrarg. omni nocte.

12th. Urine about a pint and a half in twenty-four hours, very highly charged with red particles. He complains of a sense of load and oppression about the pit of the stomach. Pulse rather full and sharp, swelling much diminished. He has no pain on pressure of any part.

Mittatur sanguis ad f̄xxij.

14th. Swelling much diminished. Blood not buffed. Urine still dark coloured. Altogether greatly relieved, but complains of his mouth being sore.

15th. Much reduced in size. Urine of a dark red, very coagulable.

16th. Mouth very sore.

Perstet in usu Misturæ; Habeat Pulv. Jalap. cum Potassæ Supertart. ʒij mane quotidie, et Pilul. Scillæ comp. gr. xij cum Opii gr. j, omni nocte.

17th. Swelling much reduced. Pulse sharp.

25th. Mouth nearly well; swelling much subsided. Urine still very coagulable and dingy.

January 3rd. In all respects improved, passes a good quantity of urine; now scarcely dingy in its colour, and coagulating very slightly. Countenance still pallid and swollen. Pulse a little sharp.

7th. Urine nearly clear, of a slightly pink cast from a few red particles; scarcely coagulates, becoming rather milky by heat.

13th. Decidedly improving from day to day.

22nd. Urine of a dingy colour, coagulating slightly by heat; he appears nearly free from complaint.

February 7th. Left the Hospital nearly well: still however the legs were slightly cedematous, pitting on pressure, particularly along the shin bones. Urine in natural quantity, pale, of a dingy colour; having by no means the natural bright appearance. Pulse 96, sharp.

In this case the disease of which I have been speaking was marked by all its symptoms, and there can be no doubt that the inflammatory tendency, which is so strong a feature in the complaint, would have proved destructive, but for the active depletion which was put in force. Whether we are to ascribe the improvement which took place, both in the quantity and the quality of the urine, to the mercurial action induced, or to the continued exhibition of saline diuretics, it is no easy matter to decide.

CASE XX.

WILLIAM TODD, æt. 28, a printer, was admitted into the Clinical ward of Guy's Hospital November 15th, 1826, under the care of Dr. Cholmeley, labouring under anasarca with some effusion into the abdomen. He stated that he had been out of employment for the last six months, and had been subjected to many privations both of food and clothing; for about a month had suffered from a cold, and for a fortnight past had found his legs and ankles swell without any pain; the swelling gradually became worse, and the week before his admission he observed his abdomen to swell towards the evening, and when he rose in the morning his head and face were swollen; at the same time a cough and difficulty of breathing, particularly on walking up stairs, came on, and tightness at the pit of the stomach. He complains of thirst, but has always had a good appetite: he makes but little urine, which is high coloured. Bowels regular. Pulse 72, small. Tongue natural. He says that he has never been in the habit of drinking either spirits or porter. The urine in this case was very scanty, and coagulated so as to look almost like water-gruel by exposure to heat. He was cupped at the pit of the stomach, and put upon the frequent use of the extract of elaterium, with the effect of purging him very freely. He took a combination of squills, mercury and opium, every night; he occasionally had recourse to combinations of jalap and gamboge, and various other purgatives. He took the infusion of juniper-berries for drink, and sometimes small doses of digitalis in the form of powder or of tincture. Under this treatment at first the urine increased, and shortly even exceeded the natural quantity; but it became of a dark coffee colour, frequently depositing a considerable brown sediment.

December 8th. Leeches applied to his temples. On the 12th eight ounces of blood were taken by cupping from the neck, and on the 14th the same quantity from the arm. The progress made was very slow, and from the first he constantly complained of severe headache. At the beginning of January his mouth had become completely affected by mercury, given in the form of calomel combined with conium and opium.

January 2nd. Feels very unwell, complains much of headache; his mouth is sore, the glands of the neck swollen; the countenance pallid; his ankles swell towards evening. Urine very high coloured, with a copious brown sediment. Pulse 102, with considerable action. He is thirsty.

Habeat Julep. Potassæ Acetat. ter die.

Omit. Hydr. Submuriat.

3rd. Mouth and gums very sore; cheeks swollen. Headache; bowels inclined to be costive. Pulse 96, soft.

Infus. Rosæ cum Magnes. Sulphat. ter die.

R Extr. Hyoscyami gr. v,

Pulveris Ipecac. gr. j;

Fiant Pilulæ ij ter quotidie sumendæ.

4th. Face swollen; mouth sore. Pulse 116: one scanty dejection. Urine very dark, with coffee ground sediment.

Applicetur Emplastrum Cantharidis Nuchæ.

Gargar. Argenti Nitrat.

Rep. Medicamenta.

5th. No dejection. Face swollen; mouth very sore. Urine the same: much headache.

Olei Ricini fʒj statim.

6th. Much salivation; four or five dejections.

7th. Face continues swollen. Mouth very sore. No dejection; skin hot. Urine less turbid.

Sumat Spir. Æther. nitr. ʒxxx, ex Julepo Ammoniæ Acetat. sexta quaque hora.

Pulver. Ipecacuanhæ comp. gr. x omni nocte.

Gargar. Acidi nitrici.

Pulv. Jalap. comp. ʒj statim.

9th. Pulse very quick; looks pale. Urine still has a thick brown deposit; two bilious dejections; spits very much. Legs do not swell; face still swollen.

R Decoct. Uvæ Ursi,
 Infus. Rosæ, aa, fʒj;
 Misce, fiat haustus ter die sumendus.
 Pulver. Jalap. comp. ʒj, alternis auroris.

16th. The flow of saliva diminished, but he cannot yet put out his tongue. One pale dejection. Urine lighter coloured, increased in quantity. Pulse 90, with considerable action; gets no sleep at night. He continued this form of medicine, with occasional purgatives, till the 24th, with little alteration; the urine being always dingy, and the face inclined to swell. He was then put upon the use of small doses of nitric acid; leeches were applied two or three times to his temples with the effect of relieving the headache, and at the same time the combination of compound extract of colocynth with a grain of ipecacuanha, was given two or three times a day, to keep up a regular action on the bowels.

February 9th. Feels rather better: bowels open. Tongue whitish. Pulse 90, sharp. Urine six pints in the twenty-four hours, clear and without sediment. As there had been manifest deficiency in the secretion of the skin, the warm bath was tried two or three times, but it increased the tendency to headache.

19th. Much headache. Tongue rather white, but moist. Pulse 106, sharp; one dejection, deficient in bile. Urine about five pints, lighter in colour.

Pil. Hydrarg. gr. v omni nocte, et Rep. Medicamenta.

24th. The legs still swell towards night; the face a little swollen. Urine with slight deposit. One copious dejection.

R Pulv. Conii gr. iij,
 — Uvæ Ursi ʒj, ter die.
 Omitt. Pilul. Hydrarg.

The exact period at which the urine ceased to be coagulable, I cannot with certainty mention, but about this time the fact was observed; and while continuing the use of this form of remedy, a seton having also been inserted into his neck, and a mixture with the balsam of Peru added to his other medicines, he gradually became better. On the 9th of March he was cupped between the shoulders to twelve ounces, and on the 15th lost the same quantity of blood by cupping from the loins.

March 29th. Urine of good colour, quite clear, without any deposit. He feels tolerably well: one scanty clay-coloured dejection; no swelling of the legs.

30th. Two darker coloured figured dejections; feels pretty well: appetite indifferent. Urine copious, of good colour.

April 4th. He left the Clinical ward, and was sent in a comparatively healthy state into another ward, but still complained much of headache, and his countenance was pallid. His urine apparently natural in all respects.

12th. At this time he is apparently free from complaint, except a slight occasional headache and a little tendency to quickness of pulse. He remains in the Hospital only because the seton in his neck is troublesome.

CASE XXI.

ELIZA PLUME, a single woman æt. 18, was admitted into the Clinical ward of Guy's Hospital, January 18th, 1827, affected with anasarca, more particularly showing itself in the legs, but likewise in the arms and face. She had at the same time some swelling of the abdomen, and a troublesome hard cough. Pulse sharp. Tongue whitish. Bowels natural. Urine in tolerable quantity. She had never menstruated. It appears that her complaint first came on after exposure to cold and wet, about four months previously to her admission, the swelling beginning in the feet and legs, and gradually extending.

Applicentur Cucurbitulæ cruentæ Scrobiculo Cordis, et detrahatur sanguis ad f̄xxiv.

R Pilul. Scillæ comp. gr. iv,
Hydrarg. Oxyd. cinerei gr. fs,
Pulver. fol. Digitalis gr. j,
Extracti Conii gr. iv.

Contunde ut fiant pilulæ ter quotidie sumendæ.

Habeat Mistur. Camphoræ, cum Liquore Ammoniacæ Acetat. singul. dosib. pilularum.

She continued the use of these medicines, with the addition of ten drops of the tincture of digitalis to each dose of the mixture and half a grain of opium at bed-time, till the 5th of February. It was not till after she had been ten days in the Hospital that any examination was made of her urine: it was then found to be moderate in quantity, dingy in colour, and coagulable by the application of heat. On the whole, amendment took place under this plan of treatment; slight changes occurred, and on one occasion the urine was observed not to coagulate by heat. Once or twice moderate bleedings were had recourse to when the pulse was sharp. After the 5th of February the mercury was discontinued. About this time the urine did not coagulate, and was increased to four pints in twenty-four hours. On the 17th of February the urine still coagulated decidedly by heat.

R Pulveris Conii gr. iij,
Pulveris Uvæ Ursi ʒj.

Fiat pulvis ter die sumendus.

February 27th. Feels much the same. Urine less copious, rather lighter coloured. Tongue white as usual. Pulse 100. Bowels open.

R Liquor. Antimonii tartarizat. fʒj, sexta quaque hora, ex Julepo
Menthæ.

28th. Eyes nearly concealed by œdema of the eyelids. Pulse 88, rather sharp; perspires pretty freely.

March 5th. The tartarized antimony occasionally makes her sick.

Infricetur Linimentum Terebinth. abdomini, et Rep. Medicamenta.

7th. Admoveatur Emplast. Picis Burgund. lumbis.

12th. Legs somewhat œdematous; right arm very much so. Pulse 96, sharp. Urine in quantity as usual, coagulates by heat and becomes like almond emulsion. The skin not generally perspirable.

Mist. Balsam. Peruvian. quarta quaque hora.
Continuatur Linimentum.

14th. Rather more swelling about the legs and abdomen.

Applicentur Cucurb. cruent. regioni Lumbor. et detrahantur sanguinis fʒxij.

15th. Limbs much less swollen; feels more comfortable. One liquid dejection. Urine unaltered.

26th. Right arm nearly returned to its natural size.

Pilul. Aloes cum Myrrh. gr. x, omni nocte.

27th. Increased flow of tears with œdema of eyelids; face also a little swollen.

Applicentur Cucurb. cruentæ nuchæ, et detrahatur sanguis ad fʒxiv.

R Infus. Sennæ fʒiſs,

Potas. Tartar. ʒij.

Fiat Haustus semel vel bis quotidie sumendus.

28th. Some relief from the cupping. Eyelids much more comfortable, but still œdematous. Three dejections.

R Pil. Scillæ Comp. gr. x,

Extracti Hyoscyam. gr. iv, omni nocte.

Repetatur Haustus.

29th. All œdema gone from the eyelids. Urine in usual quantity. Pulse 104. Bowels open;—feels better.

April 4th. Legs still a little swollen. Bowels open; and she feels comfortable.

Misturæ Potas. Supertart. ℥jſs, quotidie,

Rep. Pilul. omni nocte.

14th. Feels comfortably, and continues to pass a tolerably natural quantity of urine ; it is of a light whey-colour, but slightly dingy ; becomes milky on the application of heat, and forms a great quantity of white flakes. Legs still swollen, and rather hard ; her face has a tendency to swell, and her pulse is quick.

This case still remains under treatment, and I mention it chiefly as being one of those to which Dr. Bostock has referred in his *Observations on the State of the Urine*. The disease had already existed four months before her admission ; and although the symptoms of anasarca have always been mild, they have not yielded in a satisfactory manner. She is indeed greatly improved ; but as long as the urine remains in so morbid a condition, we cannot but feel the daily probability of relapse. It is not unlikely that could the flow of the catamenia be regularly established, this might have a favourable effect in the disease.

CASE XXII.

IN the month of February in the present year, when I was speaking to one of the physicians' pupils to the Hospital on the subject of albuminous urine, and was wishing to show the difference between the action of heat on this and on healthy urine, I requested him to bring me a specimen of the ordinary fluid from any of the patients around,—To my surprise the specimen he brought *coagulated most decidedly by heat*. This led me immediately to examine the patient: he was a boy of the name of HOBSON, about 14 years of age, who had been for three years the subject of a most manifest enlargement of the liver, the bulk of which now distended his abdomen ; and its margin was distinctly to be felt below the umbilicus, and extending far towards the left side. His general aspect was pallid and unhealthy, and there was evidence of some chronic disease of the heart, the origin of which could be traced to rheumatism, of which he had experienced a very severe and protracted attack when ten years of age. On questioning him more particularly, it appeared that he had formerly, when a patient in another Hospital, passed blood in his urine, and had experienced some pain occasionally in his loins. The urine was now perfectly clear, and rather light coloured, but nothing could be more marked than its property of coagulating. I did not hesitate to predict that we should find some obvious organic change in the kidney, connected with this morbid condition of its secretion. Towards the middle of March he had rheumatic swellings in the joints ; the urine became very dingy, apparently from the admixture of red particles ; and a short time afterwards, symptoms of inflammation of the heart and of the pleura came on,—and he died. As I could not be present at the examination, I requested most particularly that the kidneys, the heart, and a part of the

liver might be preserved for my inspection; which was done: so that I was enabled to have excellent drawings made of them all;—and I am obliged to Dr. Hodgkin for the following particular account of the appearances.

SECTIO CADAVERIS.—March 25th.

“The body exhibited no signs of puberty. The head was not opened. The pleura on the right side was adherent, especially laterally and towards the lower part, by means of a false membrane of rather recent date; it was soft and rather bloody, with somewhat of a honeycomb appearance. At the upper part and between the lobes the inflammation appeared to have been still more recent. There was some bloody serous effusion, but nothing puriform. The adhesions on the left were equally general, but much slighter; on this side also they seemed to have been of different ages. The substance of the lungs was free from adventitious deposit, was not more bloody than usual, and if a little too firm in some parts, the cells were somewhat dilated in others. The heart was a little enlarged; there was very little serous effusion into the pericardium, but both of the secreting surfaces of this membrane were doubled by an adventitious layer of about the thickness of an old shilling, having considerable firmness, and a very remarkable hirsute or scabrous surface, somewhat like that of an ox tongue. There were besides bridles of adhesion of about an inch in length, but slender and scabrous. The valves were healthy, and the parietes of their natural thickness. There was a small quantity of straw-coloured clear serum in the peritoneal cavity, and some traces of recent inflammation on the convex surface of the liver, and old adhesion between the omentum, liver, and spleen. The omentum was contracted and drawn upwards. There was nothing remarkable in the mucous membrane of the stomach or of the greater part of the upper portion of the small intestines; but that of the ilium, though free from ulceration or follicular disease, was minutely injected and of a purple colour, and was readily separated from the subjacent coats. That of the colon was nearly in the same state. The surface of the liver was generally smooth, but there were one or two unusual depressions in it. This organ was so large as nearly to reach to the crista of the ilium, and to the left it extended even beyond the spleen, which it overhung. About where the left lobe usually terminates there was a pretty deep notch, beyond which the substance of the liver was continued by a portion equal in size to the left lobe in its ordinary state. The

liver was of a light yellowish colour throughout. The posterior part was firm and almost cartilaginous, having a peculiar translucency, and an unnatural uniformity of structure with little or no appearance of acini. In the neighbourhood of the indurated parts the acini were small, but in the greater part of the liver they were much enlarged; and though themselves indurated, were but feebly connected together. The gall-bladder was pretty full of light-green bile. The spleen was about three times its usual size, but of pretty healthy structure. The pancreas was large, white, firm, or even hard. The KIDNEYS were complete specimens of a white mottling degeneration. The deposit which chiefly affected the cortical part, was collected in large granulations."—To this minute statement of the dissection, I may add, that this kidney approached a good deal in external appearance to that of SALLAWAY (Case III.); but on minute inspection it was obvious that the whole was strewed with, or even composed of opaque yellow bodies: and on macerating the kidney for a few days, this became still more evident,—so that the appearance of the macerated kidney differed very little from that of RICHARDSON (Case VI.), in which case the granulated condition was remarkably illustrated.

CASE XXIII.

WILLIAM HUNTER, æt. 47, was admitted into Guy's Hospital March 7, 1827, labouring under general anasarous swelling. On the 14th my attention was first drawn to him when he was greatly swollen, more particularly his legs, and lay with difficulty on his left side. His face was puffy and pallid, his urine scanty, very dingy in colour and *coagulable* by heat. By trade he was a tailor; and although he said that he had always been temperate, and had indeed refrained from drinking because he had observed for the last two years that his water was often very scanty, and therefore feared some bad consequence from drinking much, yet he acknowledged that he had frequently taken a pot of porter and two or three glasses of rum in a day, and that occasionally he took gin instead of rum, with a view of promoting the flow of urine. He said he had occasionally experienced pain in his loins, and his bowels were habitually costive, but he had never observed any thing peculiar in his evacuations, nor had he ever been in the least jaundiced. He was first taken ill two days after Christmas, having been in difficulties in his business about that time and exposed much to wet. The first symptom he observed was the swelling of his legs, which increased so much that he was unable to walk or bend his knees; his hands, and more particularly his left hand, swelled very much.—He had taken medicine before his

admission, and said that for about a fortnight his gums were rendered sore by the medicine he took;—he had derived no benefit from the treatment adopted.—When he came into the Hospital, it was understood that he had suffered from a fit, which had left one side much weaker than the other; and after he had been in the house about three weeks he had two fits somewhat of an epileptic character, which greatly impaired his mental powers. Blisters being applied between his shoulders, and a seton inserted in his neck, his reason returned after some days. The chief remedies employed with a view to his dropsical affection were mercurials, the action of which was maintained till his death. The swelling was decidedly reduced, and the urine for the few last days of his life was so little coagulable, that nothing of the kind was traced except in the frothy scum which was produced by boiling and remained after cooling; but he seemed to decline under the influence of mercury, and died on the 20th of April.

SECTIO CADAVERIS.—April 21st, 1827.

In the cavity of the chest a very considerable quantity of serum was effused,—at least four or five pints, of a light straw colour. The right lung adhered by rather long and not very recent adhesions to the pleura costalis. On the surface of the upper lobe several puckered parts were observed, beneath which, in one or two parts a gritty earthy deposit was found. In the lower lobe an abscess had formed with defined parietes, as from a single suppurating tubercle; yet the pus which it contained was of a greener colour than generally seen in tubercles, and in other respects seemed to differ from it. The whole substance of the lung was compressed by the effused fluid. The left lung was attached by slighter adhesions to the pleura costalis; in its substance not diseased, but in some parts considerably compressed by the fluid in the cavity, in other parts very œdematous. The heart firm in its structure; the left ventricle particularly thick and firm, and the columnæ carneæ thick and hard. The valves perfectly healthy. The aorta large. The quantity of serum in the pericardium was not precisely ascertained, owing to its making its escape; but there was evidently more than natural; the cellular substance towards the apex of the heart was filled with œdematous effusion, and the whole of both portions of the pericardium covered with a thin coating of coagulable matter, forming a villous membrane easily detached. The liver in its first appearance healthy, except from some part of the peritoneum being thickened by old inflammation: on narrow inspection it became obvious that the whole organ was composed of acini rather larger and more pale than natural, held together

by the red connecting substance. The gall-bladder was moderately full of a very imperfect bile, of a turbid orange or saffron colour. The intestines appeared healthy; the bladder was full of urine of a light straw colour, which did not coagulate by heat; but when boiled in a spoon formed a permanent scum upon the surface. The KIDNEYS were both of them decidedly diseased, the whole cortical part presenting the granulated structure of which I have so often spoken; it was by no means in its most advanced state. The kidneys were of a natural size, rather flaccid, but tough to the feel, the granulated texture was not strongly, yet quite distinctly, marked on their surface. In the pelvis of the right kidney, which was considerably the smaller of the two, a great number, not less than a couple of hundred of exceedingly minute calculi like millet seeds, of a yellow colour, were found. The brain was unusually free from vascularity, looking externally blanched, and this appearance was very remarkable at the base. The ventricles rather distended with fluid; and the membrane lining the ventricles, more particularly the right, was rendered rough by very minute villi, as from some process of inflammation, not unlike what occurs on the pericardium.

In this case we again observe an illustration of many circumstances attending anasarca with coagulable urine:—the slight derangement of the liver, the marked disease of the kidneys, and the tendency to insidious inflammatory affection of the serous membranes, betrayed not only in the pericardium but in the lining membrane of the ventricles of the brain.

CASE XV.

(Continued from page 42.)

January 9th. Awoke last night about 12 o'clock with vomiting and purging, but it subsided in a few hours.

10th. The same attack returned during the last night, and the purging continues. Urine much diminished, coagulating strongly.

Omit. Mist. Potassæ Supertart.

Sumat Pulveris Opii grs bis die, et

Confect. Opiat. gr. vj ex Mist. Camphor. sexta quaque hora.

12th. Much purged yesterday, but more quiet to-day. Pulse weak, swelling considerably diminished. Urine high coloured and yellow, very coagulable.

In the further progress of this case several changes were made in the remedies employed. On the 29th he was bled, on account of an increased sharpness observable in the pulse, though he always denied having any local pain; the blood was highly cupped and buffed; he felt somewhat relieved, but no alteration was made in the quantity or quality of the urine. The nausea which he often experienced, suggested to me the probability that relief would be derived from a free evacuation of the stomach, and accordingly he took emetics two or three days in succession, but with no particular relief. The *Uva Ursi* proved equally inefficacious. I again returned to the use of the mixture of supertartrate of potash, and the soap and opium pill twice a day; and under these remedies about the first week of February the urine again lost in some degree its coagulable property, and there appeared to be some improvement in his symptoms generally:—but this change, like the rest, was only for a time.

February 14th. One stool. Urine about one pint and a half; still coagulates.

Habeat Infusi Spartii scoparii lbjss quotidie
 R Oxy mellis Scillæ f3ij,
 Potassæ Supertartrat. contritæ ʒiij.
 Misce sumat Cochl. min. ij pro re nata.

16th. Urine about two pints, coagulates. Three stools. Pulse 76, soft and natural.

17th. Urine not increased; coagulates. Swelling remains nearly the same, feels comfortable because the bowels are freely open.

Adde Acidi nitrici f3fs ad lbij Infusi Spartii.
 Extracti Conii gr. v, quarta quaque hora.
 Rep. Electuarium Scillæ.

22nd. Pulse 96, rather sharp. Swelling increased. Three or four stools.

25th. Pulse 84. Swelling increases. Urine as before; coagulates.

Applicentur Cucurbitulæ cruentæ Lumbis, et detrahatur sanguis ad f3xij.

26th. The swelling increases. Urine as before; coagulates. Pulse 84.

R Potassæ Supertart. ʒfs,
 Aquæ puræ f3x. M. sit pro potu.
 Rep. Electuarium Scillæ.
 Infricetur Linimentum Terebinthinæ abdomini nocte manequē.

This form of medicine with the addition of a little of the balsam of Peru was continued for above three weeks, and at first appeared attended with some abatement of the swelling and improvement in the condition of the urine;—there was however no material change. He continued anasarctous to a high degree, and seemed to be losing ground in general health; and I at length determined to induce mercurial action on the system; for which purpose I ordered a few grains of the gray oxide of mercury to

be given every night combined with squills on the 19th of March, and this was continued till the 30th; when no effect being produced, I ordered a drachm of the mercurial ointment to be rubbed-in every night. This was continued for three nights; when his mouth becoming sore, a scruple was rubbed-in every other night. I continued at the same time the occasional use of saline and other purgatives. The mercury was altogether relinquished on the 10th. The effect was to reduce the swelling; but not in any considerable degree to increase the flow of urine,—for a short time it seemed to become less coagulable, but after a time was more coagulable than ever. His strength now began evidently to fail: he sometimes complained of shortness of breath and cough, but even within five days of his death was able to lie flat on either side without coughing. He sunk gradually, and died on the 30th of April.

SECTIO CADAVERIS.—April 30th, 1827.

The cavity of the chest contained a pint or two of clear serum: but the lungs were very healthy, and did not appear even to be compressed by the fluid; they were somewhat cedematous. The pericardium contained about four ounces of limpid serum; the whole of its surface, both that attached to the heart and the loose portion, was completely covered with a rough coating of fibrin, in some parts assuming a completely honeycomb appearance, in others formed into projecting points, in others into raised ridges and lines. In some parts the coating was pretty firmly attached, in others it was easily removed by the back of the scalpel; there were no adhesions between the two surfaces of the pericardium. The heart itself was rather large, the valvular structure perfect. The internal lining of the aorta had several patches of incipient ossification. The liver was perfectly healthy, rather soft in its texture. The gall-bladder rather distended with bile, diluted by the mucus of the gall-bladder, and containing four or five biliary calculi from the size of a very small chesnut to that of a pea. The stomach had its internal surface covered with vessels of a brownish colour; in other respects healthy. The duodenum was rough, with enlarged mucous follicles. The small intestines in several parts showed marks of turgescence, and the edges of the valvulae conniventes in some parts were rough, with an appearance somewhat resembling abrasion of the surface, to which the feces had communicated a stain. The colon healthy. The pancreas and spleen healthy, but the latter rather firm and fleshy. The KIDNEYS were the seat of very decided disease. The right was small and misshapen, with projecting parts of a lighter colour: its tunic thickened very much, and so firmly attached that it was with great difficulty the kidney could

be separated from the surrounding fatty matter. The left kidney was large, completely disorganized throughout: it had not much of the granulated appearance, but was of one light yellow colour throughout, with some spots of more opake yellow, differing very little in appearance from the kidney of HUGH THOMAS (Case V.).

The former part of this case was printed off as it at present stands (p. 37 to 42.), before any such alarming change had taken place in the condition of this patient as to threaten a speedy dissolution; and the fatal conclusion, with the appearances presented after death, too plainly point out the correctness of the views I had entertained, and confirm in my mind the position which I have been trying to establish. We have in this case likewise another instance of the proneness of the serous membranes under such circumstances to run into a state of inflammation, and a fresh warning of the difficulty with which the inflammation of the pericardium is discovered; for except from the appearance of the inflamed surface, I am totally at a loss to say at what period the pericardium in this case became inflamed. He always denied most positively any pain; he used to assert day after day that he had none; for, being well aware of the risk of inflammation, I was never unmindful of it. Till within the last ten days he never complained of cough or shortness of breath; and probably this was the time when the more recent inflammation came on, though I was inclined to consider these symptoms rather the result of effusion taking place into the cavities, than of any inflammatory process.

SOME GENERAL REMARKS ON THE FOREGOING CASES.

FROM the observations which I have made, I have been led to believe that there may be several forms of disease to which the kidney becomes liable in the progress of dropsical affection: I have even thought that the organic derangements which have already presented themselves to my notice, will authorise the establishment of three varieties, if not of three completely separate forms, of diseased structure, generally attended by a decidedly albuminous character of the urine.—In the *first*, a state of degeneracy seems to exist, which from its appearance might be regarded as marking little more than simple debility of the organ. In this case the kidney loses its usual firmness, becomes of a yellow mottled appearance externally; and when a section is made, nearly the same yellow colour slightly tinged with gray is seen to pervade the whole of the cortical part, and the tubular portions are of a lighter colour than natural. The size of the kidney is not materially altered, nor is there any obvious morbid deposit to be discovered. (Plate II. Fig. 4.) This state of the organ is sometimes connected with a cachectic condition of body, attended with chronic disease, where no dropsical effusion has taken place either into the cellular membrane or into the cavities of the body; I have found it in a case of diarrhœa and phthisis, and in a case of ovarian tumour. In the former it was connected with slight and almost doubtful coagulation of the urine by heat; in the latter I had omitted to examine the state of the urine. I also met with nearly the same condition of the kidney, with some opaque yellow deposits interspersed through the structure, in the case of a man who died exhausted with diarrhœa brought on by hardships and intemperance, and in whose case the secretion of urine was very deficient, but whether coagulable or not I had no opportunity of ascertaining. When this disease has gone to its utmost, it has appeared to terminate by producing a more decided alteration in the structure; some portions becoming consolidated, so as to admit of very partial circulation; in which state the surface has assumed a somewhat tuberculated appearance, the gentle projections of which were paler than the rest, and scarcely received any of the injection which was thrown in by the arteries. (Plate II. Fig. 1. 2. and 3.) In this more advanced stage, if it be the same disease, dropsy has existed, and the urine has been coagulable (SALLAWAY, Case III.).

The *second* form of diseased kidney is one in which the whole cortical part is converted into a granulated texture, and where there appears to be a copious morbid interstitial deposit of an opaque white substance. This in its earliest stage produces externally, when the tunic is taken off, only an increase of the natural fine mottled appearance given by the healthy structure of the kidney; or under particular circumstances, gives the appearance of fine grains of sand sprinkled more abundantly on some parts than others. (Plate V. Fig. 3.) On making a longitudinal section, a slight appearance of the same kind is discovered internally, and the kidney is generally rather deficient in its natural firmness. After the disease has continued for some time, the deposited matter becomes more abundant, and is seen in innumerable specks of no definite form thickly strewed on the surface; and on cutting into the kidney these specks are found distributed in a more or less regular manner throughout the whole cortical substance, no longer presenting a doubtful appearance, but most manifest to the eye without any preparation (Plate III. Fig. 3.); and other cases less advanced, requiring maceration in simple spring water for a few days to render them more obvious. (Plate IV. Fig. 3.) When this disease has gone on for a very considerable time, the granulated texture begins to show itself externally, in frequent slight uneven projections on the surface of the kidney; so that the morbid state is readily perceived even before the tunic is removed. The kidney is generally rather larger than natural; sometimes it is increased very much, but at other times it is little above the natural dimensions, (Plate I.) Occasionally I have seen (HOBSON, p. 59.) the kidney assume a good deal of the tuberous appearance observed in the advanced stage of the first disease, as shown in the representation of SALLAWAY'S kidney (Plate II.): but then it has been manifest even by simple inspection, but much more so after maceration, that the whole is made up of small opaque deposits. It is evident from the case of HOBSON, that this state of kidney attended also with highly coagulable urine may exist without any marked appearance of anasarca.

The *third* form of disease is where the kidney is quite rough and scabrous to the touch externally, and is seen to rise in numerous projections not much exceeding a large pin's head, yellow, red, and purplish. The form of the kidney is often inclined to be lobulated, the feel is hard, and on making an incision the texture is found approaching to semicartilaginous firmness, giving great resistance to the knife. The tubular portions are observed to

be drawn near to the surface of the kidney : it appears in short like a contraction of every part of the organ, with less interstitial deposit than in the last variety. This form of disease existed in a case from which I had a drawing executed about three years ago, it also existed in BONHAM (p. 22.); and a most decidedly marked instance of it may be found in STEWART (Plate III. Fig. 1. and 2.), where however the kidney was of a lighter colour than in the other cases, which were more of a purplish gray tinge. I believe the case of SMITH (p. 23.) belonged to the same. In most of these cases the urine has been highly coagulable by heat, at times forming a large curdled deposit, though in one case (CASTLES) where an approach to this appearance was found on the outside of the kidney, but with marked structural change in the liver, and with confirmed bronchial congestion, only a dense bran-like deposit of a brown colour was produced by the application of heat.

Although I hazard a conjecture as to the existence of these three different forms of disease, I am by no means confident of the correctness of this view. On the contrary it may be that the first form of *degeneracy* to which I refer never goes much beyond the first stage; and that all the other cases, including SALLAWAY, together with the second series, and the third, are to be considered only as modifications, and more or less advanced states of one and the same disease.

I have sometimes felt doubtful whether the cases of PEACOCK and THOMAS (Plate III. Fig. 3. and 4.) were to be viewed as the more early stages of the decidedly granulated kidney, (KING, BEAVER, and RICHARDSON,) or whether the opaque flaky deposit which they exhibited in their structure might be considered altogether another form of disease. I think however, from the appearance, that the former is probably the case; and although KING dated his disease from a less remote period than either PEACOCK or THOMAS, yet there is no reason that the disease should not have made either a more insidious, or a more rapid progress, in his case than in that of the others.

Besides these three forms of disease, passing almost into each other and usually attended with decidedly coagulable urine, there are two other deranged conditions of the kidneys in which the coagulation is sometimes observable, but in a very subordinate degree, and often though observable on one day is quite lost on another. One of these morbid states consists in a preternatural softness of the organ; the other in the blocking up of

the tubular structure by small portions of a white deposit bearing the appearance of small concretions. In the former a corresponding loss of firmness has been observed in the structure of the liver, and the spleen and the parietes of the heart, the action of which organ had been observed during life to be deficient in force. In the other cases, besides the obstructed state of the uriniferous tubes, the whole structure of the kidney has been somewhat deranged, the cortical portion firmer than natural, and the tubular part has lost the regular convergency of the vessels, so that they have assumed a waved direction.—It is by no means improbable that we shall hereafter find many other sources of renal irritation to be connected with an analogous state of the urine.

OBSERVATIONS ON THE TREATMENT.

IN the foregoing statements it has been my great object to establish the fact, that certain dropsical affections depend more on the derangement of the kidneys themselves than has generally been supposed; and that the albuminous nature of the urine frequently points out the particular cases in which these organs are the seat of disease. I wish that I were now able to add any thing completely satisfactory to myself with regard to the mode of treating these diseases of the kidney. It will be very obvious from a review of the cases I have cited, that they sometimes present difficulties so formidable as to defy the ordinary means of cure; indeed I am inclined to doubt whether it be possible, after the decided organic change has taken a firm hold on the kidney, to effect a cure, or even to give such relief as may enable the patient to pursue for a few years the occupations of life; where, however, the mischief is less rooted, we may undoubtedly do much. In the treatment of the disease, as it occurs in sudden attacks of anasarca from intemperance and exposure, in its early stages, and before organic changes have taken place, we have two distinct indications to fulfil;—we have to restore the healthy action of the kidney, and we have to guard continually against those dangerous secondary consequences which may destroy the patient at any period of the disease.

The two great sources of casual danger will be found in inflammatory

affections, more particularly of the serous, sometimes of the mucous membranes, and in the effusion of blood or serum into the brain, and the consequent occurrence of apoplexy. Of these secondary or casual dangers we have illustrative examples in many of the cases which have been stated above. Out of seventeen dissections, we have found ten or eleven betraying inflammation of the pleura, generally old, but sometimes of more recent date. We have found three instances in which the patients had suffered decided attacks of inflammation in the pericardium shortly before death; and in two of these cases we had proof of some previous affection of the same kind. In one only were the signs of inflammation in the peritoneum well marked. Five out of the seventeen had altogether escaped inflammatory affections of the serous membranes; and one of these died with inflammation of the epiglottis. Thus then we have proof of the frequency of these attacks; and at the same time it is obvious that they form no essential part of the disease, since in several of the best marked cases there has been no reason whatsoever to suspect inflammation during life, and no traces of its existence have been discovered after death. With regard to the cerebral affections coming on in the progress of these diseases, we find in the cases above related both apoplexy and epilepsy to have occurred; and a very well marked instance of the former was witnessed in a patient of the name of MACGUIRE, in the Clinical ward in 1825. Whatever mode of treatment is adopted must therefore have a reference to these impending dangers; and hence it is that in the early stages of the disease it will generally be indispensably necessary to have recourse to active depletion, even as a preventive measure; but still more should we be ready at every stage of the complaint to combat the first symptoms of inflammation on the one hand, or of cerebral congestion on the other, by the free abstraction of blood the moment we have our fears awakened. And here it is well to remark, that the approach and progress of inflammatory affection of the chest in these cases are peculiarly insidious: for the attention is apt to be drawn off by the marked hydropic tendency; and we are led to ascribe many of the symptoms,—such as the slight cough, the dyspnœa, and the difficulty of lying down,—to effusion rather than inflammation; and this the more because the pulse throughout the disease is often marked by a preternatural sharpness and frequency. Thus although in the case of HOBSON the inflammation of the pericardium was confidently predicted, it was but suspected

in KING, and was altogether concealed from observation in RODERICK. When the inflammatory attack comes on early in the disease, it is often overcome by very free depletion, as was decidedly the case with SPOONER; but in the more advanced stages of the disease, the patient bears the depletion so ill as necessarily in some degree to check its employment. Bleeding is also a most important remedy with a view of restoring the healthy action of the kidneys; that is, with the view of removing what appears to be the chief source, if not of the disease itself, at least of many of its most alarming symptoms. There is reason to believe that a state of great congestion, perhaps an actual process of slow inflammation, exists in various internal organs, and particularly in the kidneys, where it probably lays the foundation for their future disorganization. The appearance exhibited on the examination of EVANS (Plate V.) gave most striking evidence of this circumstance, had there been any room to doubt the fact after the very frequent occurrence of hæmaturia in the other cases I have related. In a great many instances the abstraction of blood generally has been productive of speedy good effects; and in other cases it has seemed to me, that by drawing blood locally by cupping from the loins much good has been effected.

Purgatives generally act well; the Elaterium in the case of EVANS evidently gave much relief; and all the saline laxatives which unite a certain degree of diuretic power are decidedly useful. Amongst these I have found the Supertartrate of Potash the most efficacious; and the best mode of exhibiting it when the stomach will admit, is by directing the patient to take a large draught of a mixture containing more of the salt than the water will dissolve, the first thing in the morning: and it will be seen that in some cases I have almost trusted entirely to this remedy. Where the stomach will not bear this mode of administering purgatives, the combination of Jalap, Supertartrate of Potash, and a little Ginger repeated from time to time, answers well, or even frequent doses of Castor Oil have been very useful.

The diuretic remedy which I have generally used, has been the Squill in its different forms: but it has always acted best when given in combination with Hyoscyamus, or when a grain of Opium has been prescribed once or twice a day. Indeed I cannot but consider this an important part of the treatment, with a view to diminish the irritation of the kidneys, as well as to allay the general disturbance which must necessarily result to the constitution, from the circulation of blood which has been so imperfectly acted

upon by these organs. *Digitalis* has in some instances been cautiously administered with temporary advantage, and seems by its power of checking the circulation to be well adapted to those cases where the pulse is sharp, as frequently occurs throughout the whole progress of this disease. In the case of *PLUME*, *Digitalis* acted well: in the treatment of *THOMAS* it entirely failed. Under certain circumstances, more particularly when the more inflammatory stage of the disease has subsided, Turpentine employed in the mode of friction, and the Peruvian balsam administered internally, have seemed decidedly useful.

One of the most important questions in the treatment of this class of dropsies, is the propriety of employing Mercury. It is consistent with the most successful treatment of many forms of inflammatory disease, that we should have recourse to the valuable combination of Calomel with Opium; and it is consistent with what is generally deemed good practice, that by the cautious use of mercury we should endeavour to produce more healthy action, and to promote absorption when there is reason to believe that disease has left any chronic morbid action tending to produce unhealthy deposit in glandular structures. Still however, the cases which have proved most successful in my own practice, have generally been those in which I have rigidly abstained from the use of mercury. In some cases I have seen the good effects of other remedies entirely interrupted by the mercurial action; and I have likewise seen several instances in which the cure, when mercurials have formed part of the plan, has been protracted to a great length; and a great many in which the full action of mercury has not prevented the regular progress of the disease, and its fatal termination. Yet I have undoubtedly seen well marked cases of this disease with decidedly coagulable urine, when taken early, in which the free use of mercury to complete ptyalism has not prevented the patients from deriving great, perhaps even perfect relief, from the remedies with which it was combined,—these remedies having been bleeding, purging, and diuretics. Independently of the very great doubt which exists as to the advantage to be derived from mercury, there is one circumstance which most materially limits our power of employing it, and that is the violence and rapidity with which the ptyalism often comes on, and the great difficulty which is frequently experienced in restraining its effects: for when the cellular membrane is in the peculiar state of anasarca induced by this disease, the

gums and cheeks are not capable of supporting the process of ulceration, and often pass into a state of gangrene.

In those cases where, as in BONHAM and STEWART, the kidney, besides apparently having some morbid deposit, has become preternaturally hard, we can only employ palliative remedies: and if we could ascertain by well marked symptoms the existence of this state, probably the great advantage we should gain from the knowledge, would be in its restraining us from adopting those more active remedies, which would be apt to wear out the powers of life, without affording any permanent relief to the organs affected.

Where, as in a case to which I have only referred, we have a flaccid, watery and dissolved state of the kidney, I can point out no diagnostic symptoms by which it can be discovered, except such as show general debility of circulation and feebleness in the structure of the heart; for probably the feeble condition of the two organs may often be found coexistent. If this be the case, it is not improbable that Tonics will be the most appropriate remedies. In one or two cases of anasarca which I have lately had under my care, where from the feeble but extensive beat of the heart I was led to suppose that a feeble state of that organ existed, a combination of Sulphate of Quinine with Squill, effectually restored the patient. And occasionally we find anasarca even with coagulable urine so marked by debility, that tonics and steel give decided relief; probably it is as a tonic that the *Uva Ursi* is sometimes useful.

OBSERVATIONS ON THE CHEMICAL PROPERTIES OF THE URINE IN THE
FOREGOING CASES. By JOHN BOSTOCK, M.D.

Upper Bedford Place, April 24th, 1827.

DEAR SIR,

I PROPOSE in this letter to give you some account of the experiments which I have performed on the various specimens of morbid urine which I have received from you, for the purpose of illustrating your pathological observations.

The number of specimens upon which I shall remark are twenty-eight. There were six obtained from the patient RODERICK, the respective dates of which were Dec. 26th, Jan. 12th, two on Jan. 31st, April 14th and 18th; these I shall designate by consecutive numbers; five from PLUME, received on Feb. 1st, two on the 19th, March 1st, and April 14th; two from HOBSON, on the 13th and 15th of March; two from THOMAS, Jan. 12th and 22nd; two from WEST*, March 7th and April 14th; and two from HUNTER, on March 14th and April 22nd, which I shall designate in the same manner; and a single specimen from each of the following cases:—STEWART, received Jan. 4th; SALLAWAY, Jan. 8th; CASTLE, the 15th; SPOONER, the 26th; DAVIES†, the 31st; ALCORNE‡, Feb. 27th; GALLOWAY, March 15th; OPIE§, April 14th, and TODD on the same day.

1. With respect to the quantity of matter dissolved or suspended in the urine; this I found, in most of the cases which I examined, to be below the average. The greatest specific gravity which I have found in any of the specimens, occurred in the case of ALCORNE; it was 1·032. In the six specimens from RODERICK it was 1·024, 1·029, 1·022, 1·024, 1·022, and 1·017; four of the specimens from PLUME were 1·022, 1·021, 1·021, and 1·015;

* A sailor, æt. 56, admitted into Guy's Hospital, 28th Feb. 1827, with anasarca which had already existed for five months. Urine copious, light coloured, highly coagulable. Pulse from 85 to 100, sharp. He has been bled twice, and the blood has been buffed. He has chiefly been treated by diuretics and opiates, and some tonics; mercury has been avoided. He still remains under treatment.

† A case of anasarca after recovery from ague, which was admitted into Guy's Hospital, Nov. 29th, nine days after its first appearance; the urine coagulating by heat in numerous small flakes. He left the house much relieved.

‡ A young woman, æt. 26, who had suffered several attacks of anasarca, and at length died with evidence of inflammation and effusion in the chest; the urine coagulating freely by heat. It was impossible to obtain any examination after death.

§ A carter, æt. 23, attacked with anasarca and ascites on April 4th, the day of his admission into Guy's Hospital on account of diarrhoea. He has since had ten quarts of serum taken from the abdomen, and still remains under treatment.

CASTLE was 1·019; STEWART, SPOONER, and DAVIES, was each 1·016; SALLAWAY and THOMAS, 1·014; WEST, 1·015 and 1·012; TODD, OPIE, and HUNTER (No. 2), were 1·012. The two specimens from HOBSON were 1·011 and 1·010; GALLOWAY, 1·008; and HUNTER (No. 1), 1·006. The average of these twenty-six cases is 1·017. The specific gravity of the urine even in a state of health, and in the same individuals, differs so much at different times, according to the period it has been retained in the bladder, and from a variety of other circumstances, that a great number of observations are necessary to enable us to draw any general conclusions upon the subject; but my experiments are sufficiently numerous to warrant the conclusion, that the specific gravity of dropsical urine which coagulates is less than that of urine in the healthy condition of the system.

2. Urine which has a lower specific gravity than ordinary, may be considered under three points of view: either as natural urine, merely in a state of dilution; as having a deficiency in the proportion of some of its ingredients; or, together with this deficiency, as containing some extraneous substance. My experiments lead me to conclude, that the specimens of urine which you have sent me were all of them in the third condition, being deficient in some of the natural constituents, yet at the same time containing a quantity of extraneous matter. The circumstance which was originally noticed by Cruickshanks, and afterwards more particularly attended to by Dr. Blackall, as occurring in certain species of dropsy, of the urine coagulating in a greater or less degree by heat, must be ascribed to the presence of albumen, as this is the only proximate principle with which we are acquainted that possesses this property. But it still remains for us to inquire, whether the albumen in dropsical urine is precisely similar to the albumen in the serum of the blood, or in the white of the egg. Upon this point I think it may be asserted, that in certain cases the albumen in dropsical urine possesses every property of the albumen of the blood; the urine coagulates by the application of heat in the same manner with diluted serum, and is similarly affected by chemical re-agents. If such urine be exposed to the heat of boiling water, and still more if we add to it the solution of the bichloride of mercury, muriatic acid, a strong infusion of tan, or, according to Dr. Prout's process, the ferro-prussiate of potash, and if the fluid is afterwards heated, the albumen, even when it exists in minute quantity, separates in the form of dense flakes, leaving the urine nearly transparent.

There are, however, certain cases in which, although the quantity of ex-

traneous animal matter is very considerable, as indicated by the specific gravity and by the effects of heat and of chemical re-agents, yet still the complete separation of it cannot be effected. The fluid is rendered thick and viscid; but no distinct coagulum forms in it, nor can it be separated by passing the fluid through a filter: in some cases the albuminous matter remains suspended for an indefinite period; in others it is very slowly deposited in the form of a flocculent cloud. Some of the specimens of urine after the application of heat very much resembled a solution of jelly; and I found that after the bichloride of mercury had acted upon it, the more complete separation of the albumen was effected by the application of a strong infusion of tan. Yet I do not consider this as a proof of the presence of jelly in the urine, because the operation of heat upon it did not correspond to what we know takes place with respect to this proximate principle: nor did the urine in these cases resemble a fluid which contained mucus; so that I am disposed to regard these peculiar effects to depend rather upon some change or modification in the nature of the albumen, than upon the admixture of any other proximate principle. With respect to the state of the albumen in the cases under examination, if we arrange them according to the degree in which the application of heat or of chemical re-agents had the effect of separating the albuminous matter, they will stand in about the following order. In RODERICK (No. 3), in CASTLE, SPOONER, DAVIES, ALCORNE, WEST (Nos. 1 and 2), and in GALLOWAY, the separation was nearly complete. In RODERICK (Nos. 1 and 4), in STEWART, SALLAWAY, PLUME (Nos. 1 and 4), and in HOBSON (Nos. 1 and 2), the separation took place slowly, and the precipitate always remained soft; while in RODERICK (Nos. 2, 5 and 6), in PLUME (Nos. 2 and 3), in THOMAS (Nos. 1 and 2), and in OPIE, the fluid never became clear, owing to the imperfect separation of the albumen. It appears that the state of the albumen, with respect to its disposition to separate from the fluid, bears no exact ratio to its specific gravity. The urine of ALCORNE and of GALLOWAY, the first having the greatest, and the second nearly the least specific gravity, agreeing in this respect.

The state of the urine, with respect to the presence of uncombined acid or alkali, will have some effect upon the separation of the albumen, as produced by the application of heat. This indeed I found to be the case in the urine of RODERICK (No. 5), which indicated an excess of alkali. When heated without addition, it was converted into a uniform coagulum, which could scarcely have been distinguished by the eye from the serum of the

blood; but when the alkali was saturated with acetic acid, a tendency to separation took place, although still in a very imperfect degree. The urine of HUNTER (No. 2), was also alkaline; and when simply heated, did manifest any tendency to coagulation; but after the neutralization of the alkali, a small quantity of a soft coagulum was thrown down. But the deficiency of acid or the presence of alkali, although separately or conjointly they may produce some effect, cannot be considered the principal cause. In the case of RODERICK (No. 6), the coagulum produced was more considerable than in No. 5, and showed at least as little tendency to separation, although in the former case the urine was not alkaline. In the urine of THOMAS and of OPIE, where the separation of the albumen was very imperfect, the fluid appeared to be rather more than usually acid, and had even that sourish smell, especially when heated, which is occasionally met with in dropsical urine, and which appears to depend upon the presence of acetic acid. I may further remark, that in the natural albuminous fluids which are characterized by their property of coagulating, we always meet with an excess of alkali. With respect to the acid or alkaline state of the different specimens of urine which I examined, those of THOMAS, of HUNTER (No. 1), and of OPIE, seemed to contain the greatest quantity of uncombined acid: those of SPOONER, of RODERICK (No. 6), of WEST (Nos. 1 and 2), and of PLUME (No. 5), were nearly neutral; while RODERICK (No. 5), HUNTER (No. 2), and TODD, were decidedly alkaline.

The next point is to ascertain in what quantity the albumen exists, and what proportion it bears to the urea and the salts, which are found in healthy urine. For this purpose the urine was evaporated to a thick extract; this was digested in alcohol, by which the urea was removed from it, and the residue was afterwards digested in water, by which the greatest part of the salts was dissolved. Another method which I adopted was to separate the albumen by heat, or by heat in conjunction with the bichloride of mercury, and to estimate its quantity by comparing the specific gravity of the urine before and after the process; the fluid was then evaporated, and the extract examined in the usual manner. By these means I obtained results which, although by no means perfectly accurate, were sufficiently so for the object in view. The most correct chemists differ so much in their account of what may be considered as the quantity of solid contents in healthy urine, depending upon the variation which actually takes place in this respect, that our estimates can only be regarded as indicating a general average. We find the same uncertainty, depending

probably upon the same cause, in the proportion which the urea and the salts bear to each other. My own experiments would lead me to conclude that the average quantity of the urea, as separated from the salts by alcohol, composes about two-thirds of the extract; and supposing the whole to amount to 6 per cent of the weight of the urine, it will give us 4 per cent of urea, and 2 of the salts.

I must now inquire how far the composition of some of the specimens of urine agreed with the above proportion. In the first specimen of RODERICK's urine which I examined, the amount of the albumen when completely dried was equal to about two-fifths of the whole of the solid contents; after an interval of seventeen days, the urine of the same patient was again examined; its specific gravity was now increased from 1·024 to 1·029, and the albumen was very nearly double the weight of the urea: in this latter case the albumen was soft, and separated very slowly from the fluid. In the case of STEWART, where the specific gravity of the urine was 1·016 or 4·2 per cent, the albumen was only about 1 per cent, or one-fourth of the whole of the solid contents. The specimens of RODERICK's urine (Nos. 3 and 4), deserve attention, as having been voided the one before, and the other after bleeding. The specific gravity of the first was 1·022; the quantity of albumen was not large, but it separated completely by coagulation, leaving the fluid clear, and holding in solution a considerable quantity of urea. After bleeding, the specific gravity was increased to 1·024; the urine was turbid, there was a copious deposition of the earthy phosphates, while the albumen seemed to be in less quantity and was only imperfectly separated by the chemical reagents.

I had likewise an opportunity of examining the urine of PLUME before and after bleeding. In the first case the specific gravity was 1·021, equivalent to about 4·5 per cent of solid contents; by adding the bichloride of mercury and exposing it to heat, a copious precipitate was produced, but it did not separate from the fluid, nor was it completely removed by filtration; by this operation the specific gravity was reduced to 1·007, indicating 3·3 per cent of albumen, or nearly two-thirds of the whole. The urine of the same patient after bleeding had the specific gravity of 1·015; and after the separation of the albumen it was reduced to 1·005, indicating 4 per cent of extract, and 2·5 of albumen. In this case therefore bleeding had the effect of diminishing the total amount of the solid contents, without much affecting the proportion of the ingredients. After an interval of ten days, I received another specimen of this patient's urine; the specific gravity

was as at first 1·021, but the quantity of albumen was now very much diminished, amounting to no more than about 1·25 per cent of the weight of the fluid. The urine which exhibited the lowest specific gravity of any of the specimens which came under my observation, except that from GALLOWAY, was HOBSON's, of which I had two specimens. They were very nearly similar in all respects, the specific gravity of the one being 1·010, of the other 1·011. But although the total amount of the solid contents was so small, the proportion of albumen was very considerable, being nearly double the amount of the urea and the salts taken together. In this case although the total amount of solid contents was only about 3 per cent, nearly 2 per cent of this appeared to be albumen. In the urine of GALLOWAY however, which contained not much more than 2 per cent in the whole, the albumen constituted not much more than $\frac{1}{2}$ per cent. That of ALCORNE on the other hand, the specific gravity of which was the greatest of any that I examined, indicating 8·5 per cent of solid contents, had 5·5 per cent, or nearly two-thirds of the whole of albumen; while the urine of PLUME (No. 5), which agreed with that of ALCORNE in its specific gravity, had exactly the same proportion of albumen with that of GALLOWAY. Without going further into the detail of individual cases, I may state as the result of my experiments generally, that the quantity of albumen in the urine bore no exact relation to the total amount of its solid contents, or to that of the urea in particular.

3. I may appear to be encroaching upon your province, if I offer any remarks upon the inferences which may be drawn from the presence of this albuminous matter in the urine; but as my remarks will principally refer to the chemical nature of the fluid, you will perhaps think them not altogether out of place. It is commonly said that the presence of albumen in the urine is a morbid occurrence, and it has even been supposed to be a pathognomonic symptom of a certain state of the constitution, or still more to be an indication of the existence of certain specific diseases. The first of these positions may be literally true, if we regard the albumen as existing in a state which is coagulable by heat; but it must be admitted on the other hand, that an albuminous state of the urine is produced by such a variety of circumstances, and many of them of so trifling a nature, as to render it almost a constant occurrence. In a great majority of cases it may be detected in the urine of persons in apparent health, by means of the appropriate tests. In my own person I have very seldom found the fluid to be entirely free from it, and I have observed it to be increased to

a considerable amount by the slightest causes. But although the substance which is here present in the urine may be characterized generally as albumen, yet it is to be regarded as albumen in a modified state, because mere heat will detect albumen in the state in which it exists in the white of the egg in much smaller quantity, than in some specimens of urine where heat has no action upon it. I have also found certain states of the urine where heat had no effect, but where muriatic acid threw down a precipitate; and again, where muriatic acid had no effect, but where the albumen was detected by the bichloride of mercury, or the ferro-prussiate of potash. How far these different states of the albuminous matter in urine indicate different stages of diseased action, so as to throw any light upon the nature of the symptoms, I will not decide; but I think it is a subject which deserves to be further examined.

4. Among the miscellaneous circumstances which I shall notice, is the peculiar colour which the urine often assumes in its morbid state. Instead of the orange or citron colour of healthy urine, it is sometimes brown, straw-coloured, or of a reddish hue. With respect to the straw colour it is, I think, generally connected with the presence of albumen, or rather with the deficiency of urea, and I am inclined to think that the brown colour indicates an excess of saline matter. In the case of OPIE, the urine was very decidedly browner than ordinary, and the proportion of the muriatic salts to the urea appeared to be larger than ordinary. The other cases in which this brown colour was the most marked were SALLOWAY and CASTLE. The straw colour was the most apparent in the urine of PLUME, WEST and GALLOWAY, and also was perceptible in that of RODERICK before bleeding: HOBSON afforded the best example of the reddish tinge of the urine; in this case there was indeed a deposition of the pink sediment, but the colour of the fluid remained after the deposition, as if depending on some other cause. Some of the specimens of urine which I examined deposited a copious white sediment upon the bottom and sides of the vessel; this was particularly the case with the urine of RODERICK after bleeding, and with that of CASTLE, THOMAS, and GALLOWAY, and in a slight degree with SPOONER. It will appear, from these observations, that I was not able to trace any connection between the deposition of the white or pink sediment and the albuminous state of the urine.

I have observed a considerable difference in the tendency to decompo-

sition in the different kinds of urine. The albuminous urine frequently acquired an acidulous odour very similar to that of sour milk, and it was certainly less disposed to become putrid than in ordinary cases. This, however, I am disposed to think was the case with dropsical urine generally, which may depend upon its containing a smaller proportion of urea.

There are two of the specimens of urine which may deserve particular notice, as having been voided while the system was under the operation of mercury. This was the case with the fifth specimen of *RODERICK'S* urine, received on the 14th of April. It was of the usual colour, although rather of a light shade, somewhat opake, and by standing for thirty-six hours it threw down a copious white flaky precipitate. Its specific gravity was 1·022, it had an acrid penetrating odour, and indicated a considerable excess of alkali. On the 18th I received from you another specimen from the same patient (No. 6), the properties of which were considerably different. It was now of a dingy light straw colour, somewhat opake, and contained a number of small flakes which gradually subsided. Its specific gravity was 1·017, and it was very slightly acid; in forty-eight hours it had thrown down a copious white precipitate, which seemed to consist principally of the earthy phosphates, and after an interval of five days it indicated a slight excess of alkali.

The other case to which I referred was that of *HUNTER*. The first specimen I received on the 14th of March; its characters at that time were as follows: it was brownish, slightly opake, specific gravity not more than 1·006, it was unusually acid, and had a sourish smell; a very copious precipitate was produced by boiling, but it did not separate very completely from the fluid. On the 2nd of April I received the second specimen, after the patient had undergone a mercurial salivation; the urine was now of a dingy straw colour, rather opake, specific gravity 1·012, decidedly alkaline. Boiling without addition produced no effect upon it, but by adding acetic acid in sufficient quantity to neutralize the alkali, a small quantity of a soft coagulum was produced, which slowly subsided. It may be well worth observing how far an alkaliescent state of the urine is the usual consequence of mercurial action upon the system.

I am, dear Sir, most truly your's,

J. BOSTOCK.

Upper Bedford Place, May 28th, 1827.

MY DEAR SIR,

SINCE the date of my last letter I have received from you three additional specimens of urine, the leading properties of which I will briefly state to you.—The first was received on the 16th of April, and, as you informed me, was procured from a Dispensary patient under the care of Dr. Hodgkin, named WILLIAM ELSELY. It had been exposed to heat before it was sent to me, and was converted into what appeared a uniform soft solid, very similar to the serum of the blood. On the following day there was some tendency to separation, and upon throwing the whole upon a filter, a quantity of a light straw-coloured fluid passed through; the albumen when dried, appeared to exist in the proportion of about 5·6 per cent.

The next specimen, sent on the 24th of April, which was from the same patient, was of a light straw colour, and had the specific gravity of 1·012. It was converted by heat into a soft solid, from which the coagulum slowly separated; after filtration the fluid had the specific gravity of 1·010. The total amount of solid contents in this urine was 3·2 per cent, of which the greatest part was albumen.

The third specimen, received on the same day with the last, was one which had been sent to you by Dr. Alderson; it was light-coloured, and had the specific gravity of 1·014. Upon the application of heat a precipitate was separated in small quantity, but of a dense consistence, leaving the fluid perfectly clear and bright. The specific gravity of the urine was reduced by boiling to 1·012, so that the total amount of the solid contents may be estimated at 3·7 per cent, and the albumen at 2 per cent.

I have received from you at different times specimens of the crassamentum and serum of some of the dropsical patients whose urine I examined. With respect to the former substance, the only remark that I have to make is, that it was, in most of the cases, covered with a thick buffy coat, and was generally of a firm consistence. The appearance of the serum was more varied; it was occasionally turbid, and upon standing for twenty-four hours a white creamy substance rose to the surface, but I could not detect any proper oily matter in it. On exposing it to heat, it coagulated in the ordinary manner, except that the coagulum seemed to contain an unusual number of cells and that a greater quantity of serosity separated from it. I think I may venture to say, that the serum generally in these cases contained less albumen than in health, although I am not able to state precisely the amount of this difference.

The serosity which drained from the coagulated albumen, on being evaporated, was found to consist in part of an animal matter, possessing peculiar properties, which seemed to approach to those of the urea; it was partially soluble in alcohol, and was acted upon in a somewhat similar manner by nitric acid. These phenomena were particularly noticed in the serosity of Roderick and of West*.

I must apologize for sending you so imperfect an account of this substance, which I am aware can be of little value, except so far as it may induce others to examine the subject with more attention.

I am, my dear Sir, very truly your's,

J. BOSTOCK.

June 4th, 1827.

I have to give you the account of one more specimen of dropsical urine, which you sent me on the 2nd of June. It was opaque and muddy, and by standing twenty-four hours deposited a considerable quantity of a white flaky sediment, but no precipitate adhered to the sides of the glass. It had a putrescent odour, and was strongly alkaline; its specific gravity was 1.012. The usual reagents indicated a large quantity of albumen; and by boiling it was converted into a uniform soft solid, which showed no tendency to separation after standing for thirty-six hours, and from which only a small quantity of a colourless fluid drained off, the whole presenting an appearance which could not have been distinguished by the eye from the coagulum of serum, and the separation of the serosity. I was prevented by an accident from ascertaining the exact proportion of the albumen to the other contents of this urine; but I may state in general terms, that the quantity of urea was very small, so that nearly the whole of the animal matter may be regarded as albumen, nearly in the same state in which it exists in the serum of the blood.

At the same time you sent me a portion of crassamentum and of serum from the same patient. The crassamentum was buffed and cupped in a very remarkable degree, indeed so much so that I shall attempt to give an accurate idea of it by stating the following particulars. The clot was 2.4 inches in diameter, and 1.1 in thickness: the buffed part of the surface

* A substance slightly analogous to urea was discovered by Dr. Prout in a specimen of serum of the blood, which I sent to him in November last, taken from a patient labouring under partial suppression of urine from an inflammatory attack in the kidneys, in which the urine was coagulable and mixed with blood; and in many respects this case illustrated the source of that anasarca of which I have been treating.—R. B.

was so much contracted, as to be only 1·8 inch in diameter: it was depressed ·5 inch at its centre, and was between ·1 and ·2 inch in thickness at its edge; it was almost perfectly white, and the passage from the white to the red part was with scarcely any intermediate gradation. I am well aware that the appearance of the clot depends much upon the mode in which it flows from the vessel, and upon the cup into which it is received; but I apprehend that, making every allowance for these circumstances, the blood in question will be admitted to exhibit, in a very remarkable degree, those appearances which are ordinarily ascribed to the inflammatory action of the system, in whatever we may conceive this to exist.

The serum was also worthy of attention as taken in connection with the state of the other fluids. Its specific gravity was almost exactly the same with that of the urine, being no more than 1·013, which I believe to be lower than had ever occurred to me in the numerous experiments which I have made upon this substance. In conformity with this circumstance, I found that upon exposing it to the heat of boiling water, it was converted into a mass so soft as not to bear cutting with a knife, having a consistence scarcely as dense as that of the coagulated urine from the same patient. We have here, therefore, an example of the blood exhibiting a very great deficiency of albumen, at the same time that we observe the mode in which it passes off from the system by means of the kidney, while this organ has its appropriate office of secreting urea nearly suspended.—I regret that I did not attend particularly to the specific gravity of the other specimens of dropsical serum which you sent me: from some incidental remarks in my notes, I suspect that its specific gravity would have been found lower than ordinary; but it is a circumstance which I shall be anxious to ascertain when any opportunity occurs.

J. BOSTOCK.

The above specimens of urine and blood were procured from SARAH SUTTON, æt. 25, who has been under my care about a fortnight: a woman of intemperate habits attacked with anasarca about two months before I saw her, and who has very lately become the subject of ascites. The quantity of urine which she passes is very small, but she is at present improving under the employment of small bleedings and gentle diuretics. At some future time I shall report the progress and termination of this case: it has all the appearance of being completely analogous to those I have been recording.

CASE XXIV.

The following letter, which refers to the patient of whose urine Dr. Bostock has made mention in page 83, came to me just as the present sheet was in the press.

"MY DEAR FRIEND,

"WILLIAM ELSELY,—a specimen of whose urine I some time ago (April 16th) brought to thee as some of the most coagulable which I had ever met with,—became my patient at the London Dispensary on the 22nd of March last. He was a large and rather corpulent man, about 50 years of age, of a lymphatic temperament. He had at one period of his life indulged not very sparingly in drink; but his habits in this respect were reported to have improved of late. His occupation as a dealer in Spitalfields Market exposed him greatly to wet and cold. In the course of the winter he contracted the catarrh for which he came under my care. He had besides some anasarca; but as even his legs were never very much swollen, this symptom, if my recollection serves me, had not much attracted his attention. He was ordered a mucilaginous mixture with Nitrate of Potass and Tincture of Hyoscyamus, and a pill of Conium and Ipecacuanha at night. These with an occasional aperient he continued to take for about ten days. His catarrhal symptoms abated, but the anasarca remained unaltered. I believe that it was about this time that I first discovered that this patient's urine was coagulable. He then took ten grains of Squill pill with two grains of Digitalis at night, and ten drops of the Tincture of Squills were added to his mixture. He also used *chien dent* tea as a common drink, which considerably increased the flow of urine. His bowels were kept open, not relaxed, by compound Jalap powder. He continued on this plan without any other alteration than the addition of a very small quantity of Blue pill, (which was never allowed to produce any effect on the mouth,) for nearly three weeks. His urine still continued coagulable, but not to so remarkable a degree as in the specimens which I brought to thee. The anasarca was very much reduced, but the patient felt himself weak; I believe however that he implicitly attended to my directions, though he felt the loss of the porter which he had been in the habit of taking. He was allowed a dessert-spoonful of gin in the dog's-grass tea. His bowels became disturbed, and the abdomen rather tender: I had him bled to eight ounces; discontinued the dog's-grass tea and the mixture, and gave him five grains of the Hydrarg. cum Creta, and five grains of Dover's powder, with one grain of powdered Digitalis. The tenderness of the abdomen continuing, I ordered him a mixture of turpentine and ammoniacal liniment, which afforded him prompt and permanent relief. He appeared on the 3rd of this present month to be in most respects better, but the urine was still very coagulable. I then ordered him ten drops of the Liquor Potassæ

with six drops of tincture of Opium in infusion of Gentian. From this time his urine improved in character, and the man found himself better. He requested leave to take his half-pint of porter in the middle of the day, to which I consented, at the same time continuing to warn him of the fatal nature of his complaint. His bowels required occasional aloetic pills. On the 14th instant he felt some little giddiness of head, which the recollection of the termination of DRUGGET's case, under thy care in Guy's, induced me immediately to combat by cupping. This for the time completely relieved him from the symptom: his legs at this time were scarcely sensibly œdematous. On the 17th he came to the Dispensary, and appeared to be doing well. On the 19th he was attacked with symptoms which, from the description given to me, appear to have been decidedly apoplectic. He lay for several hours motionless and in a state of insensibility, of which I had no intimation till after his death, which occurred on the morning of the 20th. The next day I applied for permission to inspect the body, which not being granted till the afternoon, I took advantage of the following morning."

SECTIO CADAVERIS.—May 22nd, 1827.

"Though only about forty-eight hours had elapsed, decomposition had made most rapid progress. Finding the body in this state, I made no attempt to open the head. On opening the chest a quantity of gas escaped: there was a little sanious fluid in this cavity. The right pleura was nearly or altogether free from adhesion: in the left the adhesion was pretty extensive, but old. The lungs like the rest of the body were far advanced in decomposition, excepting cadaveric infiltration they appeared quite free from adventitious deposit, but were perhaps a little emphysematous. The heart rather large, and very soft and flaccid; but I suspect this to have been part of the general change. The valves were healthy: some little earthy deposit was observable at the commencement of the aorta. From the abdomen gas also escaped; the collection of fluid in this cavity was very moderate. In the state in which the body was, I could observe no marks of inflammation, nor have I any thing to remark respecting the mucous membrane of the intestinal canal. The liver appeared to have been quite healthy. The spleen large, of a very dark colour, and, as might be expected, very soft. The KIDNEYS were both extraordinarily large; and decomposition having developed gas in their very substance, they were crepitant on pressure like a portion of lung. Though soft and very lacerable, and also containing a good deal of blood, it was very evident both to myself and to Dr. Millar, (who was kind enough to assist me,) that the cortical part was the seat of a pretty abundant quantity of the light co-

loured motley deposit, which thou and I have now so often had the opportunity of noticing together.

"If thou canst make any thing of the very rough scratch which I now send, it is quite at thy service.

Thine truly,

Broad Street, May 24, 1827.

THOMAS HODGKIN."

It is totally unnecessary to comment upon this case: it connects itself immediately with those which have gone before, and stands completely in confirmation of all which I have advanced. It presents us with another instance of disorganized kidney discovered by the coagulable character of the urine,—another instance of the probable effect of the abuse of spirituous liquors in inducing disease of the kidney while the liver retains its healthy structure,—another instance pointing to cold, wet, and repressed perspiration, as exciting causes of the anasarca symptoms in this particular form of dropsy,—another instance of the difficulty of overcoming the disease,—and another instance to warn us of the danger there is of apoplectic symptoms instantaneously supervening, even when our fears in that respect have begun to be allayed.

The other specimen of coagulable urine referred to in page 83, was brought to me by Dr. James Alderson, who procured it from a patient who had experienced slight œdema in his ankles as far back as July 1826, but in whom the swelling of the legs had increased during the last three weeks so as to lead him to seek for medical assistance. The anasarca has in this case greatly diminished under complete abstinence from spirituous liquors; the use of five grains of the compound squill pill twice a-day; the daily employment of an infusion of Dog's-grass (*Triticum repens*); and a gentle purgative twice a-week. The patient has likewise twice been bled, once by the lancet and once by cupping. The urine has been for some weeks increased to five pints daily; the legs are much less œdematous; but the character of the urine is in no way improved.

CASES

ILLUSTRATIVE OF SOME OF THE APPEARANCES OBSERVABLE AFTER DEATH
WHEN DROPSICAL EFFUSION HAS BEEN CONNECTED WITH DISEASE OF
THE LIVER.

ALTHOUGH I am strongly impressed with the belief that many cases of dropsy have been supposed to depend on disease of the liver, when the kidneys have in fact been chiefly in fault; yet there is little doubt that in many other cases the liver is the real cause of the dropsical effusion, frequently showing most extensive disease when the kidneys are quite healthy.

I have already remarked, when relating the cases of anasarca connected with organic disease of the kidney, that the liver has seldom been perfectly healthy, though the deviation from the natural structure has often been so slight, as to render it doubtful whether it should be noticed amongst the morbid appearances; and in describing this state I have sometimes used the expression, that the liver showed a tendency to granulation. The fact is, that the liver in these cases has usually preserved its natural figure; the acute margin has been perfect, and the general size has not been augmented; the peritoneum has been quite transparent, and attached only in the ordinary degree to the viscus; the texture of the liver has neither been unnaturally firm nor morbidly flaccid; but on examining the surface it has been evident that the colour was less uniform than in perfect health: the whole was marbled, consisting of very small light spots in a darker ground; but on making a section perpendicular to the surface, though the same general variety of colour has been observed, yet in some parts of the section it has been doubtful whether the darker or the lighter part should be considered as the ground-work: in general, however, by attentive observation, it will be found that in the centre of the lighter spots small depressions or openings are visible, and that the darker parts appear to be the connecting medium of the lighter parts, which seem to be the acini of the glandular structure. Although in most cases these appearances scarcely attract attention, yet in other cases they become more obvious, either the white portions becoming larger in proportion, or the whole viscus appearing to have lost a little of its natural pliability, to have become hard, and to break down with a slightly granulated fracture. I have scarcely in any instance seen this derangement of the liver go further,

except in the case of STEWART, where most decided morbid change had taken place. The liver had assumed more of a lobulated form than in health, and the acute margin had become rounded. In all these cases the secretion of bile is tolerably natural, the gall-bladder being well supplied with bile of a sufficiently dark yellow colour. Besides this more common appearance of the liver in the class of dropsies of which I have been treating, the liver has occasionally deviated a little in its consistence from the natural state, being either too firm or too flaccid; but where this has been the case, the deviation has only been such as is constantly occurring in cases where neither effusion nor any other marked symptom of disease has arisen during life. From the very prominent place which the disease of the kidney has appeared to hold in these cases, I have been inclined to consider the derangement of the liver as a secondary effect, or at least a subordinate disease, though not impossibly the state of both these organs depends on the same general constitutional affection; and I have sometimes even thought that the tendency to granulation where it existed, maintained a certain relation in its progress to the disease of the kidney.

There are however hepatic derangements unaccompanied by obvious disease of other organs, which may probably with justice be considered as laying the foundation of dropsical effusions. And of these I shall now detail a few examples; in which it will be seen that the morbid appearances presented by the liver are very various, arising as it would seem from morbid actions essentially differing from each other.

CASE XXV.

WILLOUGHBY TAYLOR, æt. 66, a man rather below the middle size, was admitted January 4th 1826, into Guy's Hospital. He had been by profession an architectural drafter, and had been exposed a good deal in the open air, and confessed that he had lived rather hard, but had habitually enjoyed very good health: he had obviously not succeeded in his profession, being a parish patient. For the last four months his appetite had failed, and for about a month he had perceived his legs to swell and his abdomen had become tumid: he had at the same time lost flesh. At the period of his admission his abdomen was distended and fluctuation was evident; his legs, thighs, and the integuments of his abdomen were anasarcaous; his countenance sallow, and his conjunctiva slightly tinged with yellow: bowels relaxed: pulse rather weak. Every part of the abdomen was tender on pressure; and altogether he had the air of a man completely broken down.

Habeat Pil. Scillæ cum Hydr. iij omni nocte.

Infus. Gentianæ cum Sodæ Subcarbonate.—Gentle nourishment.

5th. The dejections are too relaxed, but neither deficient in bile nor unnatural in colour. Urine loaded with *pink* sediment. Pulse rather weak.

Adde Confectionis Opii gr. vj singul. dos. Misturæ, et repetantur Pilulæ.

6th. He complains of his tongue growing dry when he falls asleep, otherwise it may be pronounced pretty natural in appearance. Three lax dejections.

9th. Three purging motions since morning. Tongue natural. Hands slightly swollen. Urine rather increased, but still scanty and high coloured,—*not coagulable by heat*.

Adde Opii gr. j Pilulis, et repetatur Mistura.

11th. Pressure on the right side of the abdomen near the liver gives more pain than pressure on other parts; nights more easy, bowels less purged.

17th. Appears much lower; his mouth is slightly affected by the mercury. He has been sitting before the fire and his shins have risen into large blisters, now beginning to discharge a quantity of serum. He lies chiefly on his back in bed, and lies very flat, but easier on the right than the left side: passed urine much more copiously this morning.

Habeat Julepum Ammoniacæ cum Confect. aromat. et Confect. Opii gr. x.

18th. Urine more plentiful; high coloured, rather yellow, clear, not coagulable by heat; three or four stools, which contain bile and are tolerably natural but loose, and have with them a dark brown fluid. Countenance more sallow, some cough, with expectoration of a yellow puriform mucus.

20th. Appeared rather more revived, was sitting by the fire when I saw him. In the evening he went to bed, but soon found great difficulty in lying down, and was propped in a very high sitting posture. All that he complained of was great difficulty in drawing his breath, and this went on increasing till the morning when he sunk under it: his mind quite collected.

SECTIO CADAVERIS.—Jan. 21st, 1826.

Complexion rather sallow. Cheeks and lips somewhat purple: whole body very slightly cedematous, but more particularly the legs and thighs. Abdomen swollen and fluctuating, but not tense. No effusion into the cavities of the pleura, nor above half an ounce into the cavity of the pericardium. Lungs adhered partially but very firmly to the ribs, and particularly on the left side to the diaphragm: very little of either lung had the na-

tural crepitant structure; they were not hepatized, nor did they contain any tuberculous matter; but they were harder than in health, and appeared in some parts congested, in others much loaded with serum, which flowed freely when the substance was cut into. The trachea showed marks of venous congestion, increasing in its first bronchial divisions. The heart perfectly healthy, valves very sound. The abdomen contained seven or eight pints of clear light straw-coloured serum. The omentum, rather fatty, was drawn upward, so that it adhered near the diaphragm; and being torn from that adhesion, was capable of being spread out well. The intestines were throughout exceedingly contracted in diameter, and looked opaque and thick from contraction rather than from any disease either of the peritoneal or mucous coat; and when laid open in several places no sign of peculiar vascularity was to be found in any part of the mucous membrane. The mesentery fatty rather in extreme, otherwise apparently healthy.

LIVER contracted, and throughout of a morbid structure, apparently by the deposition of minute portions of a yellow matter. The surface, covered by a very fine peritoneum, quite transparent, even more thin than usual, presented a general rough granular, and therefore uneven surface, of what might be called liver-coloured red and yellowish gray. On being cut into, the same structure of a less red colour pervaded the whole. The liver was thicker and rounder than natural, and rather smaller; and on pressure broke down easily with a brittle or crisp fracture, uneven and granular. The gall-bladder opaque and thick, contained the usual quantity of bile. The common duct was pervious, but at its entry into the duodenum was contracted in a nipple-like projection, with an orifice not much larger than to admit the point of a pin. On opening the gall-bladder and letting out the deep-coloured viscid bile with which it was filled, a number of small yellow bodies larger than millet seeds and soft, adhered to the villous surface of the gall-bladder, chiefly on the side where it is attached to the liver. The pancreas was rather soft, and with difficulty distinguishable from the fatty accumulation in which it was imbedded. Spleen very small, flaccid, and light-coloured, with irregular and small cartilaginous deposits on its convex surface. Kidneys rather small, perfectly natural both in consistence and in structure, but of an unusually light gray colour internally.

In this case the whole appearance of the patient, his slightly jaundiced complexion, his irritable bowels, and the sense of tenderness about the

right side, appeared to point to the liver as the organ chiefly diseased. The urine did not coagulate, nor was it at any time of a dingy colour, there was no irregularity or labour in the pulse, there was in short nothing to induce a belief that the effusion depended on disease either of the kidneys or of the thorax.

The examination after death betrayed a very confirmed state of hepatic disease, and that of a peculiar character. I was led to suspect it possible that part of the structural change depended on some deposit from the bile, from observing that the bile in the gall-bladder had undergone a partial separation, depositing some small white bodies on the internal coat of the gall-bladder, not very unlike in appearance to the whiter parts of the liver; and I accordingly requested my skilful and experienced friend Dr. Bosstock to submit a portion of the liver to examination. The result of that investigation I shall presently give in his own words, from which it will appear that my conjecture was not altogether unfounded, and that an approach to this condition of the liver is probably not very uncommon in dropsical affections. It is also worthy of remark, that as far as a single case can go, we must infer from it that there is no necessary connection between this state of the liver and the condition of the urine which renders it coagulable by heat, as its existence in this case was disproved by experiment. The immediate cause of death was obviously the effusion of serum into the substance of the lungs, the truly oedematous state in which they were found accounting most satisfactorily for the occurrence of that distressing dyspnoea which shortly preceded death.

CASE XXVI.

JOHN MACDONALL, æt. 15, was admitted into Guy's Hospital under my care, June 21st, 1826. He was a boy of weakly constitution, who had suffered many hardships from poverty, but had enjoyed tolerable health till within about two months. At that time his legs began to swell, and his abdomen had since swollen. At the time of admission his abdomen was considerably enlarged, and covered with a net-work of numerous veins; fluctuation was very evident, and a hard tumour was distinctly felt in the region of the liver. Legs slightly oedematous; great general emaciation. The urine was scanty, *and did not coagulate.*

R Pilul. Scillæ. comp. gr. v,
Pilul. Hydrarg. gr. j;

Fiat Pilula omni nocte sumenda.

R Julep. Ammonia Acetat. fʒj,
 Spir. Æther. nitric. fʒss,
 Tincturæ Digitalis ʒvj;
 Misce, fiat haustus ter quotidie sumendus.
 Habeat Pulv. Rhei cum Hydrarg. Submuriate, gr. xv statim.

From this plan some slight improvement was experienced. I varied the prescription a little from time to time; sometimes the draught was made more tonic, employing for this purpose successively the infusion of cascarilla, the compound infusion of gentian, and some gentle chalybeate preparation. I varied the preparation of mercury, sometimes giving very small doses of the submuriate, and sometimes the gray oxide. I also changed the squill pill for the powder, the tincture, and the oxymel: particular attention was paid to the regulation of the bowels, and on one or two occasions the occurrence of pain and tenderness in the abdomen led to the application of a few leeches, and to the employment of the tartrate of antimony as an external irritant. For a time decided improvement was experienced, but about the beginning of September he became evidently worse, his emaciation was more marked, his countenance was sunk and hollow, and his urine very scanty; still, however, not coagulating: the effusion into the abdomen was again increasing.

September 14th. He was ordered to take two ounces of gin very largely diluted, in the twenty-four hours: this acted at first very much on the kidneys, so that on the 18th he passed five pints of urine in thirty-six hours.

22nd. Urine three pints in twenty-four hours. The swelling of the abdomen increased and became very burdensome. Thighs and scrotum much swollen; complaints of pain in the back.

Applicetur Cataplasma Sinapis parti dolenti.
 Habeat Infusum Lini pro potu.

25th. It was quite evident that no effectual relief could be afforded, the tension of the abdomen, however, greatly aggravated the sufferings, I therefore gave directions that the operation of paracentesis should be performed.

27th. Three gallons of straw-coloured serum drawn from the abdomen this morning.

29th. He has suffered no pain since the operation, and is much relieved; passed two pints and a half of urine in forty-eight hours. Tongue red at the tip.

Infus. Lini cum Potassæ Nitrate pro potu.

October 1st. The tumour of the liver is felt completely tuberculated. Urine about two pints each day; one stool daily. Tongue still red at the tip.

6th. The abdomen is again very full. Urine one pint and a half in twenty-four hours. He gradually declined, and died on the 16th.

SECTIO CADAVERIS.—October 18th, 1826.

Above a gallon and a half of serum in the cavity of the abdomen, with a few flakes of coagulable matter; slight appearance of recent inflammation on the peritoneal coat of the intestines, and the intestines somewhat shortened by an old adventitious membrane which covered the whole and drew them together. The liver externally tuberculous, of a light yellow colour nearly approaching to that of a lemon, with deep fissures in the surface apparently arising from partial contraction taking place in the substance of the organ, and partly depending on the contraction of the thin adventitious membrane which covered the peritoneum. The whole liver was enlarged about one-third above its natural size, it was greatly increased in firmness and specific gravity; it felt firm and hard, cut with considerably more resistance than boiled udder, to which it might be said to bear some general resemblance; and on examination its whole structure was composed of bright yellow granules distributed in a transparent pinkish ground, the two parts bearing about an equal proportion; and although on the surface the pinker part appeared the basis, yet in the section the yellow rather seemed to be so. The two parts did not separate, or in this respect resemble one body imbedded in another; nor was there any appearance of tubercular structure in the substance of the organ. The gall-bladder very much contracted, containing a small quantity of dirty-looking bile. The intestines thickened by effusion into the submucous tissue, which appeared gelatinous. The mesenteric glands very little beyond their natural size. The kidneys rather pale, with irregular vascularity, but in structure natural. The pancreas and spleen healthy. Lungs and heart quite healthy.

In this case the emaciated appearance very plainly bespoke, from the beginning, confirmed visceral disease, and the tumour felt distinctly in the region of the liver left no doubt of the fact. The urine never coagulated, nor did the kidneys after death show any organic change.

CASE XXVII.

THOMAS HOLBEACH, aged about 60, was admitted into Guy's Hospital on the 12th of October, 1825, in a most lamentable state of advanced dropsy; his whole body unyieldy, his legs and thighs greatly swollen, with ill-conditioned ulcers upon the shins.

He lay always very much raised in bed; and as he dozed uttered continually a moaning sound. Urine scanty, and rather high coloured. His motions, though frequently loose, were not very deficient in bile. Tongue generally dry and brown. He was ordered a combination of squill, blue pill and opium, and took small doses of æther and the acetate of potash in the infusion of juniper berries. He varied a little, occasionally showing symptoms of temporary amendment, but soon falling back again. At one time the anasarca swelling of his thighs and legs increased beyond what I ever saw. The discharge from the large ulcers on his legs reduced them in some degree. Extensive and deep sloughing took place on the nates previous to his death, which happened on the 23rd of November, about five weeks after his admission.

SECTIO CADAVERIS.—Nov. 25th.

On opening the abdomen a singular appearance presented itself; all the parts displayed to view, when the water had been carefully drawn out by a large syringe so as to displace nothing, stood rigidly raised like rock-work. The liver forming two whitish flesh-coloured masses, the edges thickened and rounded, the whole surface somewhat tuberculous: as part of the right lobe stood erect and crisp, the fundus of the gall-bladder was seen nearly of the same colour as the liver. (Plate VI. Fig. 1.) Below the liver to the left was an irregular mass, purplish in colour, except on its tuberculous lower edge, where it was marbled flesh-colour and purple. It looked like a part of the liver; but on examination was found to be the colon and omentum matted together by an adventitious membrane, which appeared to cover the whole. Below this were seen four or five convolutions of the intestines perfectly erect and stiff, not yielding or moving out of their place by pressure, of a purple green or livid colour, covered by the same general adventitious membrane, which was opaque, and had a worm-eaten appearance; they felt thick, hard, and rather elastic. The sigmoid flexure and the rectum were seen descending into the pelvis bound down firmly by the adventitious membrane. The bladder contained about half a pint of urine. On examining further, the substance of the liver was found hardened throughout (Plate VI. Fig. 2.), the structure nearly resembling scirrhus, with bands of thickened cellular membrane like ligamentous matter pervading every part, and in some parts forming one-third of the whole structure; although when seen externally the liver appeared tuberculous and knotty, yet when examined internally there were no tubercles. The outside was smooth though not even, and on pressure between the

fingers gave almost the resistance of cartilage. A piece of the substance taken without the peritoneal and adventitious membrane was still so hard as not to be broken down by the same pressure : there were some adhesions, old but web-like, between the liver and diaphragm. The gall-bladder was contracted, and covered by the false membrane : it contained bright yellow bile, and the ducts were pervious. On cutting through the intestines the coats were greatly thickened, in some parts about the sixth of an inch ; the mucous membrane not ulcerated, but the valvulae conniventes brought very close together ; in truth, the appearance was precisely as if the whole had been contracted in length, pushed up together, and then bound in that state by the false membrane : the mesentery so bound down by membrane as scarcely to be found ; the glands not materially changed in appearance. The stomach was likewise much contracted, drawn up high into the left corner of the abdomen, its internal surface corrugated, and showing some streaks of grayish coloured stain. The spleen was covered by the same membrane which invested the rest, but here it seemed to assume more the character of the cartilaginous deposit so frequent in the peritoneal covering of that organ. The kidneys were healthy, though the natural structure was not very distinctly shown, and they were rather large than otherwise. The lungs in some parts slightly œdematous and flabby, but on the whole not unhealthy : the heart healthy. There was effusion to some extent into the cavities of the thorax and pericardium.

CASE XXVIII.

WILLIAM WRIGHT, æt. 50, a pilot, was admitted into the Clinical ward, October 19th, 1825, when the following report was drawn up.—He has been in the habit of living freely and drinking spirits, but has been stout and enjoyed good health. His appearance is unhealthy ; but he is by no means emaciated, though he says that he has lost flesh. There is some sallowness of complexion and yellowness of the conjunctiva ; but the most striking symptom is the distention of the abdomen, which now measures about four feet in circumference a little below the umbilicus ; the integuments are very tense. Fluctuation is evident, and no tympanitic sound is yielded when the abdomen is struck : there is no tenderness on pressure ; but till very lately he has felt pain on lying on either side. Bowels rather open. Urine scanty and high coloured. Tongue furred and brownish, and dry at the base. Thirst considerable. Appetite moderate. The action of the heart natural. Pulse 96, rather small and sharp. Respiration nearly natural, but quick. Chest resonant. The sound of respiration,

ascertained by the stethoscope, natural, and he bears the horizontal posture without difficulty. His legs and thighs have much œdematous swelling.

His complaints commenced about four months ago, in consequence as he believes of lying on a damp sail. He was first affected with pain just above the pubic region. The scrotum was also swelled, though this is not the case at present. These symptoms subsided by the use of medicines which acted on the bowels and kidneys. His abdomen has been since progressively swelling without any accompanying pain, the œdema of the legs is more recent.

Very copious daily notes were preserved of the circumstances attending this case, from which it appears that the urine was generally rather scanty and high coloured, and that it did *not coagulate by heat*. The dejections were generally deficient in bile. Moderate and frequently repeated doses of Elaterium were fairly tried, without producing any marked good effect upon the disease: an attempt was then made to procure stools by means of the Oleum Tiglii rubbed externally on the abdomen; and although this appeared at first to answer the purpose, in a very few days it occasioned so much external irritation that it was necessary to desist.

November 5th. He began taking the Pil. Scillæ cum Hydrargyro, which appeared to have more effect on the kidneys than the Elaterium.

12th. Cough still troublesome, preventing sleep; great difficulty of breathing; four loose dejections. Urine increased to two pints. Pulse 120. Gums affected.

13th. Cough better; several dejections and much urine. Tongue clear, moister, and of a bright red colour.

14th. Some cough during the night; passed many watery dejections, and made much urine. Pulse 96. Tongue red and clean: measurement shows that there has not been any diminution in the size of the abdomen, and there is still œdema about the pubic region and lower extremities.

Fiat Paracentesis. Sumat ter quotidie Spir. Armoraciæ comp. fʒj ex Infusi Bacc. Juniperi fʒij.

Repetantur Pilulæ Scillæ cum Hydrargyri Oxydo cinereo omni nocte.

15th. Three gallons and four pints of serum, clear, but deeply tinged with bile, were drawn off: he bore the operation very well; the breathing was much relieved. Tongue dry. Pulse 92, feeble.

18th. It appears that the abdomen is diminished four inches by the tapping. Urine about two pints daily. Pulse 80. Gums still tender. Tongue red, and often dry.

26th. Urine three pints. Pulse 92. No perceptible increase of the abdomen. Very slight cough; sits up two or three hours. Four dejections.

December 6th. Urine four pints and a half. Bowels a good deal griped and disordered of late. Pulse 82. Tongue dry at the tip. Abdomen has not increased, but fluctuation is felt.

R. Potassæ Subcarbon. gr. xv,

Syrup. Zingib. fʒj,

Infus. Gentian. comp. fʒjss.

Misce ; fiat Haustus ter quotidie sumendus.

It soon became the chief object to regulate the condition of his bowels, and for this a variety of remedies were adopted. It was obvious throughout the whole month of December, that although the abdomen had diminished eight inches since his admission, and the œdema of his legs was much less, still his countenance was altered, and he was declining. His sleep was generally disturbed and his breathing short, and lying on his right side always excited cough.

January 12th. A great change has taken place in his general manner ; he talks incoherently, and has lost his memory. Urine decreased, and he passes loose bilious dejections in bed.

13th. Incoherence much increased : he was able to stand when taken up to have his bed made, but used very violent language, and resisted being put to bed again.

14th. During the whole night has been lying in a comatose state. Motions and urine passed insensibly. Pulse at the wrist scarcely perceptible. Respiration 26, laborious and rattling. Features contracted : pupils somewhat dilated. Nostrils and lips dry, and of a dark colour : has taken nothing since yesterday afternoon.

15th. Continued in the same state until about 8 o'clock this morning, when he died.

SECTIO CADAVERIS.—Jan. 16th, 1826.

General œdema. Abdomen by no means tense, but fluctuating freely ; whole body sallow. The right lung adhered pretty extensively and very firmly by old adhesion to the pleura of the ribs ; the substance of the lung tolerably natural and crepitant. The left cavity contained at least two pints of high-coloured serum. The lung a good deal compressed : no water in the pericardium. The heart itself natural, but the semilunar valves of the aorta rather thicker than in the most perfect state. A thick layer of fat was deposited in the integuments of the abdomen ; and on removing them, the first thing observable was that the omentum was rolled up into a mass near the stomach, and that two portions of it, likewise rolled up and looking exactly like two cords or large vessels, were attached, the one near the umbilicus, the other on the left side of the abdomen. It was obvious that the whole cavity was lined with an adventitious membrane, smooth and opaque ; in some parts looking worm-eaten, and appearing as if by its contraction it had bound down all the viscera with unusual

force: the convolutions of the intestines were greatly shortened by this means, and they were held so firmly down that the mesentery scarcely presented itself till this membrane was stripped off, when the mesentery and all the parts connecting the intestines with the back of the cavity were found excessively loaded with fatty matter, which in some parts had by compression almost lost its natural character. The adventitious membrane was seen very thick and worm-eaten on the liver. In some parts there was a black, apparently carbonaceous, deposit, either in the membrane or on the peritoneum: this on the left side of the abdominal parietes looked as if soot had been sprinkled over it, and near the rectum and part of the mesocolon was in large patches. On some parts of the intestines were to be remarked a reticulated inflammation, giving the motley appearance of some soap-balls. The LIVER was drawn up under the diaphragm, to which it was fixed by a firm old adhesion; it was stiff and rigid, and being covered with the adventitious membrane bore no resemblance to a natural liver. It was contracted in size, and throughout every part extremely hard, so as to cut with difficulty, and almost with a cartilaginous resistance. It was of a speckled yellow green, with lighter bands running through it, but these bearing a small proportion to the whole. It was compared by some to a decomposing coarse-grained sandstone, and would not break down under any ordinary pressure of the fingers. The gall-bladder of tolerable size, and moderately filled with viscid yellow bile, which when seen in the mass appeared of its full dark colour; indeed I should say that it was by no means unhealthy bile: on paper it was of the natural yellow colour. The gall-bladder contained five roundish gall-stones of the size of peas, all covered with points as if beautifully crystallized round the whole circumference; these broke with a brittle fracture, and appeared vitreous like inspissated bile. The bile did not seem to flow easily along the duct, though we found no real obstruction. The pancreas was decidedly hard, thicker, and more round in its shape than natural, not materially altered in its structure. The spleen rather soft, with some cartilaginous patches. The mucous membrane of the stomach suffused with a pink colour, forming a general blush over its surface. The duodenum unusually tender, so as to tear easily under the operator's hand. All the rest of the intestines were greatly thickened, chiefly from the contraction they had undergone by the adventitious membrane. The internal surface of the intestines not much irritated, though vascular in patches,



and the valvulæ conniventes in many parts presented a curious appearance of transparency, so that they might be called œdematous; they looked like long narrow bladders of water, lying transversely in the intestines. The rectum was enveloped in a mass of fatty matter, which gave it the appearance of some morbid growth as it passed over the back of the pelvis. The kidneys were of a remarkably full kidney colour, considerably more so than in perfect health, but in no way disorganized: a small calculus in the pelvis of one of them. On taking off the skull the vessels of the brain were seen very full upon the dura mater. A slight serous effusion was very manifest under the arachnoid. Not the least unnatural effusion in the cavities of the brain: the vessels were rather full around the ventricles. The choroid plexus on both sides was diseased, having a tumour nearly the size of a horse-bean, of a medullary consistence rather more yellow than brain, and the one into which I cut had a deposit of bony matter in the centre. Substance of the brain firm, natural, and showing the fibrous structure on careful dissection very beautifully. Cerebellum rather soft.

CASE XXIX.

CHARLES OPIE, æt. 23, was admitted into the Clinical ward, April 4th, 1827, having been attacked about a fortnight before with pain in the abdomen and frequent diarrhœa. He was a carter, and had been in the habit of drinking frequently to intoxication. His countenance was dejected and pale: he complained much of thirst. His tongue was loaded: his appetite bad. Pulse remarkably weak and small. Stools loose and clay-coloured. Urine high coloured, *coagulating a little on the application of heat* so as to become for a short time turbid, and then let fall a flaky deposit, leaving the fluid clear. On the day of his admission he first found his legs to swell; and at the same time it was discovered that some effusion had taken place in his abdomen.

In the first place I turned my attention entirely to the state of the bowels, and attempted to improve their secretion by Ipecacuanha; and this in some measure succeeded: but finding the very marked deficiency of bile, he was ordered on the 14th to commence mercurial friction on the abdomen, which was continued till the 23rd, when his gums were slightly affected. Little or no progress, however, was made; and perceiving from the feebleness of the circulation that there was great want of tone, I then began the use of Chalybeates, which, with occasional Purgatives, were continued as long as he was under my care. On the 1st of May he was transferred to the care of one of my colleagues, who continued the chalybeate he was taking, with the addition of a dose of the Squill Pill and Opium three times a day; and he ordered Turpentine liniment to be rubbed on the abdomen, and a purgative to be given occasionally.

On the 15th the combination of Squill Pill and the Gray Oxide of Mercury (to which I have so often referred) was prescribed every night; and the infusion of Juniper Berries, with the Supertartrate of Potash, was given as a drink. But the effusion into the abdomen went on increasing, and it was necessary to have recourse to the operation of paracentesis on the 19th, when ten quarts of serum were drawn off. For a week after this he appeared to be going on well, and suffered very little; but he then unfortunately went out of the Hospital without leave, and returned intoxicated: from that time symptoms of peritoneal inflammation came on. The pain he suffered was very great; but he was so reduced by the disease and the necessary remedies, that very active depletion was impossible; and he sunk under a renewed attack of diarrhœa on the 13th of June.

SECTIO CADAVERIS.—June 14th, 1827.

The pleura on the left side was extensively inflamed, forming recent adhesions with the lung: the lung itself was condensed by the pressure of the serum in the cavity to less than one fourth of its natural dimensions, so that no air seemed lately to have entered it. The right lung was likewise compressed by the serum, but to a less extent, and the pleura on that side was not inflamed. The heart was most peculiarly flaccid; the muscular fibre, of a light brown colour, affording none of the natural resistance to pressure. On opening the cavity of the abdomen the appearances presented formed an exact counterpart to that which I have described in the case of HOLBEACH, except that the whole mischief seemed to be more recent. The liver was seen lobulated and of a drab colour, covered by an opaque membrane. The omentum was drawn up into a matted mass, and the intestinal canal was rendered thick, and shortened by the contractions of an adventitious membrane which covered the whole. The LIVER itself was found to have undergone nearly the same change as that of HOLBEACH (Plate VI.), only to a less extent, the bands of cellular membrane being fewer. The gall-bladder was tolerably filled with a light greenish bile. The structure of the intestines was precisely as detailed in the last case, except that the contracted coats were even thicker, and the peritoneal inflammation was obviously more recent, and still bore marks of active inflammation having existed till the time of death. The kidneys were large, but in a very unhealthy condition; quite dissolved and watery in their texture, approaching more nearly to the kidney mentioned in the last line of page 69, than to the other cases of diseased kidney with coagulable urine

which I have described. They had likewise light yellow stripes through the cortical substance, in the direction of its structure.

In this case it is to be observed, that the morbid appearances were peculiarly complicated, and were to a considerable degree anticipated. The derangement of the liver evinced itself very early, by the character of the stools and the high colour of the urine: and as soon as I ascertained that the urine coagulated, I began to fear disease going on in the kidneys. I own that from the colour of the urine I did not expect to find that it would coagulate, but this is now sufficiently explained, from the modification of disease by which the kidneys were affected: the coagulation was at no time so marked as in those cases where the urine is limpid and almost colourless, or tinged of a dingy brown by the passage of the red particles. Both the kidneys and the heart bore a strong analogy to the cases spoken of in page 69 and 70, where the urine is found to coagulate to a certain extent, but to vary in that respect a good deal.

CASE XXX.

THOMAS CRANE, a hackney coachman, of rather spare habit as far as we could judge, but when admitted greatly swollen with ascites and anasarca. He had been exposed to a course of hard drinking from the time he was eight years of age; and during the latter years of his life had frequently drunk thirty glasses of spirits in the day. He was not aware till lately that he suffered in his health, having enjoyed tolerable health till within a few months. A great variety of diuretics and mercurials were had recourse to during the time of his being in the Hospital; but only temporary relief was from time to time obtained. Occasionally he complained much of general tenderness of the abdomen, and several times his symptoms showed that inflammatory action was going on in the system. He was tapped three or four times; the last time about three days before his death: he bore the operation well, always expressing himself much relieved. He gradually sunk, complaining of great weakness and tenderness of the abdomen.

SECTIO CADAVERIS.—Nov. 1814.

Considerable serous effusion in all the cavities of the chest: very marked congestion of blood in the lungs, though still a good deal of natural crepusus remained. Although several quarts of serum had been removed

by operation from his abdomen two days previous to death, a large quantity had again accumulated, so as to render the abdomen quite tense. The whole of the peritoneal coat of the intestines was covered with a very thin coating of coagulated matter, forming a fine membrane in some places, but in others hanging in thicker shreds of a yellow colour, of the character which is usually observed when the peritoneum has been inflamed. Removing this membrane, the peritoneal coat of the intestines was disclosed marbled over with vascularity, leaving spots free from vessels, exactly resembling the red and white motley surface of Castile soap, or of some wash-balls where the white portions are separate and angular. The substance of the large intestines was considerably thickened, partly from serous effusion into the cellular membrane, and partly from obvious thickening of the coats. The LIVER was drawn up almost entirely within the concavity of the diaphragm, to which it was attached by several very firm cord-like organized adhesions. This organ throughout its whole substance was quite changed in structure, as if in progress of becoming uniformly tubercular; its whole structure changing into small rounded masses of the size of large peas, not much altered from its natural colour, but capable of being picked out, leaving imperfect cavities. The arch of the colon was most firmly adherent to the acute margin of the liver: it was much thickened, and the fatty knobs which were upon it, which were very hard, might very probably have afforded the distinct irregular hard feel which was supposed before death, and at those times when the serum was drawn off, so as to leave the abdomen flaccid, to have been liver; whereas the liver was so completely glued to the diaphragm, that there is great doubt whether its hard substance could have been felt. The gall-bladder was very small, and at least twenty times its natural thickness, opaque yellow, but containing a small quantity of bile; the ducts pervious. The stomach adhered by strong old cord-like adhesions to the back part of the diaphragm, so as to be drawn completely out of sight behind the liver. The spleen four times the natural size; its peritoneum coated with a thin pellicle of recent coagulum, and under that about half its convex surface covered with a semicartilaginous substance. Large intestines throughout thickened. Kidneys large, but not unhealthy.

CASE XXXI.

ELIZABETH WHEELWRIGHT, æt. 50, was admitted into Guy's Hospital, Feb. 7th, 1827. She was a large and corpulent woman, and had been employed in making shoes. About fourteen weeks before her admission she became slightly jaundiced, and four weeks afterwards was seized with severe pain about the umbilicus, for which she took some spirits; and in a short time passed a large quantity of blood from the bowels, —according to her account, nearly a pint in a day frequently,—and this continued in a greater or less degree for some weeks. When she came to the Hospital she was in a state of great apparent prostration: her skin was highly jaundiced; the conjunctiva yellow; tongue very red, and morbidly clean; pulse 100; skin cool. Her abdomen, naturally large, now gave some evidence of fluctuation; there was no unnatural growth or tumour to be discovered, nor any tenderness on pressure. The legs were somewhat œdematous. The dejections were of a deep green colour, and her urine of the brightest orange colour, from the mixture of a red sediment and the deep bilious tinge of the urine itself. Her stomach was very irritable; and after she had been in the house a day or two, a patch of ecchymosis, larger than the hand, was discovered on the right mamma.—She died on the 19th.

SECTIO CADAVERIS.—Feb. 21st.

Countenance suffused; whole body and limbs yellow, and somewhat œdematous.—No serum was effused into the cavities of the chest; but the ecchymosis which had been observed on the right mamma extended inwards to the pleura of the ribs on that side which was discoloured to a considerable extent. Lungs healthy, except some emphysema towards the edges, where several enlarged air-cells were seen forming vesicles; the lungs were pushed upwards by the serum in the abdomen pressing on the diaphragm. The heart was large, but apparently not unhealthy. In the cavity of the abdomen transparent yellow serum was effused, to the amount of ten or twelve pints. The omentum was loaded with fat. The LIVER rather contracted in size, of a yellow drab-colour externally, the whole granulated in appearance, so as nearly to resemble a coarse-grained sandstone, of which the component granules projected slightly on the surface, and were generally about the size of small lupine-seeds, varying a little in colour,—gray, brownish, and yellow. The liver was somewhat tough, and gave considerable resistance to the knife: the altered structure pervaded the whole, and the rounded bodies were formed into clusters, many of which

were of a light yellow colour; and this was particularly remarkable near the acute margin. The gall-bladder was distended with watery bile. The spleen healthy, but surrounded by fat; and a patch of cartilaginous substance occupied a part of its surface. The kidneys had a few vesicles in the substance of the cortical portion; otherwise their structure and consistence were perfectly healthy; and on stripping off the tunic they presented a smooth and yielding surface.

When we consider the state of the liver in the seven foregoing cases, we find at least three distinct morbid conditions of that organ, all terminating in dropsical effusion into the abdomen, more or less combined with infiltration of serum into the cellular membrane. These, however, form but a part of the modifications of diseased structure to which the liver is found to have been subject in the examination of such cases.

In the case of TAYLOR (page 90), a distinct morbid deposit or a conversion of matter had taken place around, or in, the secreting portion of the liver, which, without interfering very much with the natural consistence of the organ, rendered its surface rough, and its whole texture deranged and granular. (Plate VI*. Fig. 1.) It is to be observed, that something not very unlike this, occasionally accompanies the granulated state of the kidneys.

In the case of MACDONALL (page 93), both the secreting part and the connecting cellular tissue of the liver had suffered a change of structure nearly in an equal degree, so that the whole viscus was brought to an unusual state of firmness. The acini were enlarged, and the parenchymatous substance was thickened, and brought to a state of semicartilaginous hardness without being drawn into bands (Plate VI*. Fig. 2.).

In HOLBEACH (page 95.), the diseased state of the cellular tissue seemed to have advanced much further, so that it had formed bands in various directions, not unlike a scirrhus degeneration either in the appearance or in the consistence which it assumed; yet the secretion of the organ had not been entirely obstructed. (Plate VI.) In the case of WRIGHT (page 97), the disease did not essentially differ from that of HOLBEACH; but the bands of altered cellular tissue bore a much smaller proportion than in the case of HOLBEACH; while in the case of OPIE (page 101), the same state of liver existed in a much earlier stage, a total change having taken place in its glandular appearance, so that when cut into, it bore more the

aspect of a muscular body cut transversely to the direction of its fibres ; and a few bands of thickened cellular membrane were seen running through the substance and generally corresponding with the indentations and scars, which gave a lobulated appearance to the whole viscus externally.

In CRANE (page 103), there were none of those semicartilaginous bands of hardened cellular tissue which were observed in the others, but the whole organ was changed into globular concretions, harder and more tough than in the natural condition, easily picked out of the cavities in which they seemed imbedded, and sliding pretty readily over each other, so as to render the whole pliable, though tough. In WHEELWRIGHT (page 105), very nearly the same state of disease was to be observed (Plate VI*. Fig. 4.) ; and the result of macerating a portion of this liver in water, which was seldom changed for about three months, was to convert all the globular masses into adipocere, leaving the connecting cellular tissue without any corresponding change. In a case which I have examined within the last week (June 18), where a patient had been admitted into the Hospital a day or two before death, while sinking under the obvious effects of organic disease of the liver, we found the same appearance of small globular bodies pervading the whole ; but in at least a dozen points small abscesses, from the size of a pin's head to that of a large lupine-seed, were found to have taken place in the very centre of the liver, each surrounded by an imperfect cyst, but showing no tendency to spread : and in some cases these abscesses were most distinctly undergoing a process of cure, the pus they contained becoming consolidated by absorption of its watery particles. In many instances the condensed cellular tissue from the abscesses extended to some indentation on the surface of the liver, which seemed to be formed by its contraction ; so that probably in these cases the disease of the liver was the same as in HOLBEACH, WRIGHT, and OPIE, varying only in the progress which it had made.

Difficult as it is to trace the precise nature and progress of the morbid changes which affect the whole substance of the liver, and to mark the mode in which they individually act, it appears that all of those just now described, produce very general obstruction to the circulation through the branches of the vena portæ, and become in this way the immediate cause of dropsical effusion, independently of any morbid condition which may result to the blood, by its not having given off those substances from which

it is purified, while the process of secreting bile is carried on in its full extent. It is these general changes in the structure of the liver which give rise to dropsy, more frequently than any of the circumscribed changes,—as tubercles of various kinds, and hydatids occurring imbedded in the substance; for the influence of these, as long as from their situation they make no immediate pressure on the large vessels, is often very small in favouring serous effusion, however much they may wear out the constitution by the irritation they produce.

The changes which take place in the structure of the liver may fairly be expected to have much influence on the character of the bile; and partly with a view to illustrate the state of the bile relatively to the condition of the liver, and partly with a view to discover the nature of some of the changes to which the liver itself is subject, my friend Dr. Bostock has made some interesting experiments.—He has kindly communicated to me the results in the following letters; and although, as yet, they afford but little ground upon which to generalize, yet trusting that future opportunities will occur of adding to the facts here noticed, I think them highly worthy of being placed upon record.

Upper Bedford Place, December 26th, 1826.

DEAR SIR,

At your request I send you an account of some of the experiments which I made upon the portion of liver of WILLOUGHBY TAYLOR (page 90), which you sent me in January last. It differed in its external characters from the ordinary aspect of this organ; it had a marbled appearance, and upon being closely examined, was found to consist of a number of small white granular masses, from the size of a pea to that of the most minute particle, imbedded in a basis of a reddish brown substance. When a thin layer of the liver was viewed in the microscope, the distinction of the two parts was still more evident, the white masses being considerably translucent, while the connecting substance was perfectly opaque.

1. A portion of the liver was divided into thin slices, which were macerated in cold water, the water being changed daily. After this operation had been continued for three weeks, the red connecting part was evidently broken down and partially removed, while the white masses did not appear to be affected. A portion of the liver was digested for some time in boiling water, but did not appear to be much affected by it; the

water was rendered slightly turbid, and the turbidness was increased by the addition of the bichloride of mercury.

2. A portion of the liver cut into thin shreds, was strongly pressed between folds of bibulous paper, being at the same time slightly heated; when a very perceptible greasy stain was left on the paper.

3. A portion of the liver was digested for some time in boiling alcohol; it did not appear much affected. The alcohol upon cooling became turbid, and gradually deposited a small quantity of a white substance; the addition of water threw down a white precipitate (A) in moderate quantity.

4. A portion of the liver was boiled in sulphuric ether: as the fluid cooled, a film was formed on its surface; and on the addition of water, a white precipitate fell down.

5. The portions of liver that had been heated either in alcohol or in ether, or even in water, when dried by exposure to the atmosphere were much reduced in bulk, and were converted into a dark-coloured, hard, dense, partially friable substance. When broken into fragments it was easy to discern the white part, in the form of small rounded masses of various sizes, from the head of a large pin downwards, and of a somewhat shining appearance; the whole being intersected in various directions by membranous bands.

6. Some thin slices were macerated in a solution of caustic potash at the temperature of the atmosphere; the red part appeared to be much more acted upon than the white matter, which was scarcely if at all affected. The slices were then suspended in water, when a white sediment was gradually formed, while the water presented the appearance of an imperfect solution of soap; it became more turbid on being boiled, and acetic acid threw down a considerable precipitate from it.

7. A portion of the liver was heated in a solution of caustic potash; the texture was completely broken down, and a substance rose to the surface, which, when removed, was found to be of a thick consistence, unctuous, and inflammable, leaving after combustion a considerable portion of a light carbonaceous residuum. It was not melted by the heat of boiling water, but when held over the flame of a spirit-lamp on a leaf of platina, it immediately fused. Acetic acid threw down a gray precipitate from the potash.

8. A portion of the liver was digested in diluted nitric acid at the temperature of the atmosphere. In six days its texture was entirely broken

down, the red matter appeared to be dissolved, while the white substance was left in the form of small grains. These grains were separated from the acid and washed in water; they were found to be fusible at a temperature above that of boiling water, and were readily inflamed. A portion of the acid was supersaturated with ammonia; it assumed a deep orange colour, but no precipitate was thrown down.

9. The substance (A) which was procured by the action of heated alcohol on the liver was of a thick and somewhat unctuous consistence; it was softened but not fused by the heat of boiling water; but when exposed to a stronger heat on bibulous paper, it fused and left a greasy stain. It immediately melted by being heated over a spirit-lamp on a sheet of platina, and burned with a bright flame. When digested with pure ammonia it partially united with it and formed a saponaceous substance. It was scarcely acted on by being heated with caustic potash, but by the addition of acetic acid to the potash after it had been filtered, a slight precipitate was thrown down.

From the above observations I think we are warranted in concluding, that the liver which you sent me for examination contained a quantity of a substance nearly resembling cholesterine, the body which forms the basis of the biliary calculi. I do not venture to determine concerning the nature of the connexion which subsisted between this substance and the liver, but I should conjecture that it had been secreted by the arteries of this organ, and deposited in its cellular texture.

Believe me, dear Sir, most truly yours,

J. BOSTOCK.

Upper Bedford Place, April 1st, 1827.

DEAR SIR,

SINCE I sent you an account of the experiments which I performed on the liver of TAYLOR, I have examined several other specimens of livers, which I have received from you at various times. Of the whole of these it will not be necessary to give you a detailed description, as in the former instance, but merely to point out those circumstances in which they presented any thing that was peculiar in their composition, referring to the former experiments as a standard of comparison. The cases which I shall notice are those of ADELIN, STEWART, CADMORE, CASTLE, HORSON,

and Mr. A. B., which from the singularity of their appearance particularly attracted my attention, as presenting a deviation from the ordinary structure of the organ.

1. The appearance of ADELIN's liver (page 115), on the first inspection, was that of a substance consisting of a number of small red bodies imbedded in a white ground; but the relation of these parts depended upon the direction in which the liver was viewed: when divided horizontally, it appeared, as stated above, composed of red spots in a white ground; but when cut vertically the appearance was reversed, the section presenting a number of white cylinders surrounded by a reddish substance. The distinction of the two colours was considerably increased by maceration, the effect of which was to render the light part still whiter, and, as I thought, softer, while it did not seem to act upon the red part. Upon applying the same chemical re-agents to this liver as to that of TAYLOR, I found slight indications of the presence of the same substance which was observed in that case, but in a much smaller proportion; indeed so much so, that although the action of alcohol and of potash proved its existence, it was in too minute a quantity to be collected and separately examined.

2. The liver of the patient STEWART (page 20) was generally light coloured, and when closely examined was found to consist of a white substance, which was irregularly imbedded in a reddish ground. The effect of maceration was to render the difference between the two substances more apparent, but it produced no further change. The chemical re-agents gave the same results as in the former case, and in a somewhat greater degree. The liver contained a substance which was dissolved by boiling alcohol, was in part precipitated by cooling, while the remainder was separated by the addition of water. Potash entirely destroyed the texture of the liver; the greatest part was dissolved, but a small portion rose to the surface and seemed incapable of solution in the potash, while it appeared to be soluble in alcohol. It formed but a small proportion of the whole, although more than in the last case.

3. The liver of CADMORE (page 116) was of a much lighter colour than ordinary, and presented a marbled appearance; when more minutely examined it seemed to be composed principally of a light flesh-coloured substance, containing streaks or patches of a white substance which was of a considerably denser consistence. It was not much changed by maceration, and the usual chemical re-agents did not indicate the existence of the peculiar matter that had been detected in the former cases.

4. The appearance of CASTLE's liver (page 25) was more remarkable: it appeared to be composed of a white ground-work, through which were dispersed a number of red lines forming various figures, sometimes foliated, at other times quite irregular. By maceration the red colour was somewhat diminished, but no other change was produced, nor did the chemical re-agents detect any of the peculiar substance which was found in the livers of TAYLOR, ADELIN, and STEWART.

5. There was a considerable peculiarity in the appearance of HOBSON's liver (page 59). It was generally much lighter coloured than ordinary, while some portions exhibited a yellowish tinge, and others were of a light flesh-colour. Upon more minute inspection the flesh-coloured part seemed to consist of a dense substance of a uniform texture, while the yellow part appeared to be composed of a number of irregular spots, which gave the peculiar colour to this part imbedded in the dense substance. Portions of each of these were separately subjected to the usual chemical re-agents, when it was found that the yellow part contained a quantity of the peculiar matter which I had found in the liver of TAYLOR, while the flesh-coloured part, although it manifested a slight trace of it, contained it in very much less quantity. The proportion which it bore to the whole substance of the liver, even in the yellow part, was much less than in the case of TAYLOR,—in this respect more nearly resembling the liver of ADELIN.

I examined specimens of the bile of ADELIN, CADMORE, CASTLE, and HOBSON. ADELIN's bile was considerably lighter coloured than natural, less viscid, and had a very nauseous odour; it became rapidly putrid, and was then extremely fœtid. By employing various re-agents,—as heat, water, alcohol, mineral acids and other substances,—I found it to differ from the ordinary state of the secretion, in containing a substance which may be characterized as intermediate between albumen and mucus, or perhaps as a mixture of the two, while the proportion of the resinous or proper biliary matter was much less than ordinary.

CADMORE's bile was rather light coloured; it was more tenacious than ordinary, as if containing an unusually large quantity of mucus, but there was no indication of albumen. There were a number of black particles diffused through it, which very slowly subsided: it was not easy to separate them from the fluid, on account of its viscosity and their minuteness; but I was led to conclude that they consisted of small portions of the resin of the bile, in an extremely indurated state. Except in the above respects, this bile did not present any morbid appearance.

There was nothing peculiar in the bile of CASTLE, but that of HOBSON differed considerably from the healthy state. It was unusually thick and tenacious, and of nearly a black colour. Its consistence was similar to that of a very dense mucilage; by the action of heat and the various chemical re-agents, it appeared to contain a considerable quantity of albumen. It was converted by boiling into a soft solid of a uniform density, and the addition of the bichloride of mercury in solution separated from it a large mass of a flocculent precipitate, leaving the fluid nearly without colour and as if deprived of all the animal matter. The general result of the experiments was, that it contained a large quantity of what was either a combination of albumen and mucus, or a substance intermediate between them, and that this was intimately united with the proper biliary matter, which was of a peculiarly dark colour.

I received from you on the 15th of January another specimen of bile, which you informed me was procured from a patient of the name of SKELTON (page 122), whose liver was in a very diseased state. The bile may be characterized as being somewhat more viscid and dark coloured than ordinary, but it could scarcely be said to present a morbid appearance.

I received another specimen from you on the 1st of February, which was remarkable for its containing a considerable number of small calculi, varying in size from that of a small pea to a grain of sand; some of the larger of them were tuberculated, seeming as if composed of several of the smaller ones concreted together. They were brown externally, as if coated with bile, but internally were nearly white. They were moderately hard, and partially friable, and when viewed in the microscope were found to be composed of radiated crystals. There were thirty-eight of them collected, and there appeared to be many more, but they were too minute to be separated from the fluid. The effect of chemical re-agents showed them to possess the usual properties of biliary calculi; they were fusible and inflammable; soluble in alcohol and ether, while potash merely removed the brown colour, without appearing to act on the crystalline matter (page 117: Case XXXIV.).

On the 24th of February I received from you a fluid, which I should not have recognized as bile, but which you informed me that you had taken from a gall-bladder (WHEELWRIGHT, page 104). Its consistence was not much unlike that of serum, but rather more tenacious; its odour offensive; its colour a bright light orange; it was neither acid nor alkaline;

by rest the colouring matter partially separated and slowly subsided. By applying heat and the various chemical re-agents, it appeared that the greatest part of the animal matter in this fluid was albumen, probably united to a little mucus, with which was mixed a small quantity of the substance which gave the fluid its peculiar colour. This substance was nearly insoluble in alcohol and in the mineral acids, but dissolved readily in potash; the solution was precipitated by acids; by the sulphuric acid it was thrown down of nearly a black colour; by the muriatic, of a dark brown, the fluid being tinged green.

I have reserved my account of the liver of Mr. A. B. (page 117: Case XXXV.) to the conclusion of my letter, as it appeared to have no relation to the former cases, and to possess characters peculiar to itself. It presented a light buff colour and nearly an homogeneous texture, but it was slightly marbled or marked with light red streaks. When cut into, its consistence was that of a tenacious and somewhat elastic soft solid resembling new cheese. It floated on water; it had a greasy feel, and when pressed on bibulous paper left a greasy stain. When heated, a large quantity of oil exuded from it, and by pressure combined with heat the greatest part of it was found to be composed of the oily matter, an irregular mass of cellular substance being left of comparatively small bulk. By immersing thin slices of the liver in boiling water, a quantity of oil rose to the surface, which as the water cooled was converted into a hard white substance, in appearance exactly resembling tallow. The action of re-agents showed it to be generally similar to tallow in its chemical properties; but it seemed to differ a little in its melting point: when a quantity of it was exposed to a gradually increasing temperature, it began to melt at about 80°, and was completely fused at about 110°. It did not experience any change after being exposed to the air for several weeks.

Believe me, dear Sir, very truly your's,

J. BOSTOCK."

Reference having been made in the above communications by Dr. Bostock to the liver and the bile of patients whose cases have not otherwise been mentioned, I think it right to subjoin some brief notices, although the organic derangements were not in these cases accompanied by dropsical effusion, which has been more particularly the object of inquiry in the preceding pages.

CASE XXXII.

ADELIN—(page 111 and 112.) æt. about 32, had been a dancer at Astley's Theatre, but had for several months been incapable of pursuing her occupation on account of disease of the uterus. Under the discharge occasioned by this disease, accompanied with frequent diarrhœa, she gradually sunk.

SECTIO CADAVERIS.

The lungs and the heart were perfectly healthy. The LIVER viewed on its external surface was smooth, but seemed composed of small white bodies, surrounded by a red ground, so as to give the whole a regular reticulated appearance: this varied in different sections; but the white parts appeared to be the acini enlarged and somewhat altered in their structure; the whole was soft and pliable. The bile which was found in the gall-bladder was of a very imperfect character, and of a dirty pale green colour. On viewing the small intestines externally, they were observed to be of a lead colour throughout; and on opening them, this was found to depend upon innumerable fine points of dark gray matter disseminated closely over the mucous membrane,—an appearance by no means uncommon when the membrane has been much irritated, and which will be seen represented from another case. (Plate XII. Fig. 2.) The mucous membrane was extensively eroded by creeping ulceration. The uterus presented a formidable example of ulceration of its cervix. The bladder rugose, and ulcerated within. The ureter greatly distended, as was the pelvis of each kidney, which by its pressure had produced absorption of the substance of the kidney itself.

CASE XXXIII.

MARY CADMORE, (page 111 and 112.) an unmarried servant, æt. 25, was admitted into Guy's Hospital, March 8th, 1826, with a tumour in the situation of the left ovary, apparently the size of two large fists. This tumour was painful, and was exquisitely tender; it was tense to the feel, and in some parts appeared to be softer than in others. She had enjoyed good health till about a year before, when she had been suddenly seized with bilious vomiting, which continued for a week, and was followed by inflammatory symptoms, for which she was bled, and had leeches applied to her abdomen. The tumour was first perceived eight months ago, since which the catamenia had not returned.

It is not necessary to enumerate the various remedies which were employed in this case; they were chiefly given to obviate urgent symptoms, and above all, to allay the intense and unceasing pain. The bowels were exceedingly irritated, and the discharge consisted of unhealthy curdly matter frequently mingled with mucus and blood. The tongue generally morbidly clean and red. In the month of December she was attacked with erysipelas of the whole scalp and face in a very aggravated form: from this, however, she was completely cured; but weakened by diarrhœa, and worn out by pain, she died at the latter end of January 1827.

SECTIO CADAVERIS.—Jan. 20th, 1827.

Great emaciation. The left lung perfectly healthy; the right lung slightly attached by old adhesions to the pleura costalis: the substance of the lung rather consolidated, particularly at the posterior part. The heart quite healthy. On laying open the abdomen a tumour of the size of a large cocoa-nut was seen a little to the left, but not far from the centre, just above the pubes. The omentum spread over the intestines was strongly attached to the tumour, and the liver and stomach were seen at the upper part. On more minute examination it appeared that the tumour which proceeded from the pelvis consisted of one thickened cyst attached to the left ovary, containing within it a curious mass of soft curd-like matter of a light yellow colour; and mixed in this a number of hairs were seen: almost imbedded in this mass was a substance of a light gray colour, membranous in its consistence, about the size of a small egg; and this contained portions of bone and teeth. The whole contents of the tumour were easily turned out of the cyst, which was found to be thick, and its internal surface rough, becoming in one or two small patches completely ossified. The LIVER was rather enlarged, of a pale yellow colour, cutting with the resistance of boiled udder; in some parts the acini were scarcely to be traced in the yellow firm substance; in others they were seen putting on a brown colour. The gall-bladder was moderately full of a dingy light olive green bile. The spleen was double its natural size, and firm. The intestines were healthy in their external appearance; and no marks of particular irritation showed themselves within, except a slight degree of dryness in the mucous membrane. The kidneys had a mottled light yellow appearance externally, and the cortical substance within was extremely pale, approaching in aspect, though not in other qualities, to fat. (See Plate II. Fig. 4; also page 67.)

CASE XXXIV.

Page 114. This was the case of a woman who had a scirrhus tumour in the left breast, and who afterwards became the subject of a similar disease affecting many of the viscera, and amongst them the liver very extensively; still, however, the portions which intervened between the scirrhus tubercles bore a tolerably healthy aspect, and were not visibly deranged in structure.

CASE XXXV.

Page 114. I procured this specimen from my friend Dr. Hodgkin, and he has enabled me to state the following facts.

The subject from whom it was taken was Mr. A. B., a young man of about 28 years of age, originally stout, vigorous, and active, who had been regular in his diet and very temperate in the use of wine and other fermented drinks, but had frequently been the subject of syphilis. Some few years before his death he laboured under a dysenteric affection, on the subsidence of which his bowels became habitually constipated. This state appeared to be in part attributable to a stricture of the rectum, which was felt at no great distance from the anus: a bougie was passed, and a considerable dilatation of the stricture was effected. His health continually declined, and symptoms of stricture higher up in the intestine became evident. An abscess was formed just above the crista of the ilium posteriorly, which on its opening proved to have communication with the intestine. Pain was felt in the upper part of the left iliac region. Leeches were applied, and their bites produced sinuous ulcers. He had no cough or obvious chest affection; latterly he had some diarrhoea, and wasted rapidly.

SECTIO CADAVERIS.

The head was not opened. There was some old pleuritic adhesion on the left side, but none on the right. The lungs and heart were quite healthy. In the left iliac region the intestines were glued together by peritoneal adhesions, and firmly bound down on the iliacus internus muscle. The cellular membrane below the peritoneum was very firm and much thickened. The mucous membrane of the stomach was free from rugæ, rather firm, and not easily separated from the subjacent coat; towards the cardia it was of a diffused dusky livid colour: that of the duodenum was pale, but its mucous glands were enlarged: that of the rest of the small intestines was tolerably healthy. The same was the case with the first part of the large intestines; but in the sigmoid flexure of the colon, and more

particularly in the lower part of it, there were numerous traces of old ulcerations: these were of a lightish leaden colour, of an uneven surface; and the structure of the intestine at this part was thickened and condensed, and its calibre greatly contracted: there were three or four small perforations through the intestine at this part. Quite the last part of the colon and nearly the whole of the rectum appeared healthy; but a little above the anus there was a decided thickening, with induration. This evidently depended on an old ulcer which had occupied about half an inch of the intestine. Like those of the colon it exhibited a leaden hue, an uneven surface, an apparent deficiency of the mucous coat and thickening of the subjacent structure. The LIVER was remarkably enlarged, and of a pale yellowish brown colour; it was very exsanguine, and had universally undergone the fatty degeneration. It felt soft and plastic under the fingers, soiled the clean blade of a scalpel which was thrust into it, and yielded an oily fluid on the application of heat. The gall-bladder was small and contracted, and contained no bile, but a little dirty-coloured somewhat puriform mucus. The patient, however, had had some bilious vomiting but a few days before his death. The spleen was of a moderate size and firm, and the kidneys were healthy.

CASES

ILLUSTRATIVE OF SOME OF THE APPEARANCES OBSERVABLE WHERE DISEASE
CONNECTED WITH THE VISCERA OF THE THORAX HAS BEEN FOLLOWED
BY DROPSICAL EFFUSION.

CASE XXXVI.

JOHN RICHARDSON, æt. 38, a sailor, was admitted Feb. 28th, 1827, under my care into Guy's Hospital. Owing to an injury of the thigh he was unable to gain his livelihood, and had consequently been much exposed to cold and hunger for the last six months. About seven weeks ago he began to feel a shortness and oppression of breath with occasional cough. His legs began to swell nine days ago, and since that time he has been under medical treatment. At the time of his admission he appeared in a most distressing state; he could scarcely be induced to go to bed, but stood against a chair leaning his head on the back, and in this position he had remained without once going to bed for four nights. His legs were greatly œdematous. Pulse 120 to 130. Respiration 48, with much effort. Bowels loose. Urine scanty.

Applicetur Cucurbit. cruentæ margini costarum, et detrahatur sanguis ad f̄3xij.

Applicetur Empl. Cantharidis sterno.

Habeat Julep. Ammon. Acetat. cum Vino Antimon. f̄3ss et Spirit. Æther. nitric. f̄3ss ter die; Pil. Scillæ cum Hydrargyro No. iij omni nocte; et Electuarius Scillæ pro re nata.

Eight o'clock P. M. Great oppression in breath.

Mittatur Sanguis e brachio ad f̄3vij.

March 2nd. Has been able to lie better in his bed.

R Olei Ricini f̄3ss,

Tinct. Opii ʒvj statim. sumend.

Rep. Medicamenta.

5th. Sits always erect in bed: hands and arms puffy. Legs very œdematous. It was remarkable at this time that the colour of his lips and tongue was natural, with very little purple tint. Respiration 40, with great effort. Pulse 108. Urine rather scanty, clear, of a natural colour, *not coagulating by heat*.

Mittatur Sanguis ad f̄3x.

Applicetur Emplast. Cantharidis regioni cordis.

R Hydrarg. submuriat. gr. ij,
 Opii purific. gr. fs,
 Antimon. tartarizat. gr. $\frac{1}{4}$,
 Fiat Pilula sexta quaque hora sumenda.
 Repetantur Mistura et Pilulæ.

6th. Blood very decidedly buffed, but not cupped.—Repetantur Medicamenta.

7th. Sits in bed a little inclined to the left side; weak and oppressed.

Habeat Julepum Ammonizæ, et Repetantur Pilulæ Scillæ cum Hydrarg. Oxyd.
 ciner. omni nocte.

The following day he died.

SECTIO CADAVERIS.—March 9th, 1827.

Countenance very purple. Lips, ears and nose, of bright violet colour. The right side of the thorax contained nearly a wash-hand basin full of yellow serum, in which were floating coagulated tissues of false membrane looking like transparent cysts. Very little serum on the left side. In the pericardium about two ounces of clear serum. The lungs on both sides were very healthy: quite natural in their appearance throughout, with the exception of being rather gorged with blood. The HEART was full twice its natural size. The valves were all healthy, except the semilunar valves of the aorta, which were greatly diseased; they were thickened and corrugated and puckered, so that they must have served their office very badly,—one of them appeared to have suffered either by laceration or by ulceration, so that one angle was detached from its proper place and separated by a curved fossa. The aorta immediately outside of the valves was much diseased, and thickened in patches, which were passing from the cartilaginous to the bony state. The artery was diseased to where the arteria innominata was given off, and there was disease at the commencement of this vessel. The liver rather harder than natural, speckled, and inclining to what has been called the *nutmeg liver*. This appearance was here considerably more marked than in the cases where an approach to the same has been associated with diseased kidney. The mucous membrane of the intestines throughout very much loaded with blood. The kidneys were perfectly healthy, but a little gorged with blood.

This was a case of very well marked hydrothorax, depending, as far as we can trace the cause, upon derangement of the circulation, owing to

the semilunar valves of the aorta being rendered unfit to discharge their office by organic lesion. The examination afforded no reason to suspect the existence of that form of inflammatory action in the pleura which terminates in the effusion of fibrin; on the contrary, both the pleura and the substance of the lungs were free from any such appearance. It is worth observing, that in this case, although there was a tendency to disorganization in the liver, nothing of the kind existed in the kidneys, and the *urine was not coagulable by heat.*

CASE XXXVII.

SAMUEL LONG, æt. 49, a man of short stature, was admitted into Guy's Hospital, February 7th, 1827. He ascribes his present complaints to exposure as a watchman in a private yard. His first symptoms came on about five weeks ago, and he thinks they were much increased by taking medicines without proper care: for the last month his cough, which is very severe, had often been attended by spitting of blood. About three weeks ago he first observed his ankles swell, often to such a degree that he could not put on his shoes; since that his legs have always been swollen, his hands and face occasionally; scrotum also swollen. At present, pulse 100, very sharp, with a jerk, not to be felt in the right wrist; but this he says arises from a wound he received in that arm. He prefers sitting in bed, as lying produces constant cough. Respiration 44, with labour. Expectoration gelatinous mucus, occasionally bloody. Urine very scanty, soon becoming turbid by standing, but again clear by the application of a moderate heat, after which by a stronger heat a very few slight flakes show themselves. The remedies employed were chiefly purgatives, Jalap, Elaterium and Super-tartrate of Potash, besides some slight Mercurials with diuretics. He was cupped on the pit of the stomach, and a blister applied to his chest. The oppression under which he laboured was however never materially relieved; the impossibility of lying down increased upon him; he sat on the side of the bed the whole night, and his sputa were mingled with florid blood. He died on the 14th.

SECTIO CADAVERIS.—February 16th, 1827.

Countenance much bloated, almost like one who had died of apoplexy. A small quantity of serum in the pericardium, otherwise very little fluid in the cavities. Lungs in general not unhealthy. At the apex of each was a puckered portion, with some gritty matter underneath. In three or four parts in each lung, chiefly about the lower lobes, decided effusion of blood had taken place into the substance forming that appearance which has

been called pulmonic apoplexy, with a circumscribed sense of hardness to the feel externally, and nearly a defined margin to the dark red part internally. The heart nearly twice its natural size. The semilunar valves of the aorta thickened, and in part ossified. The whole arch of the aorta was dilated and diseased; but the most striking appearance was in the descending aorta about two inches below the arch, where a spongy mass of bone filled up nearly the whole opening of the aorta for the length of an inch, and at the origin of the cœliac artery the same appearance recurred; and on cutting open the artery at this place, it appeared that this spongy mass arose from four or five points round the circumference of the vessel meeting in the centre. The liver was decidedly granulated, and rather small. The gall-bladder full of dirty-coloured green bile. The spleen hard. The kidneys natural in size, structure, and appearance. The intestines bore some marks of irritation along the mucous coat, but not considerable. The stomach remarkably red on its mucous membrane, with a number of pink points. The head presented no peculiar appearance, the veins of dura mater alone were turgid.

In this case the nature of the organic obstruction and the degree in which it existed were very unusual. The valvular disease was considerable, yet might not probably have interfered with life for many months or years, but the barrier which was opposed by the bony growth occupying the whole passage of the aorta could have suffered very little blood to pass, and must necessarily have led to most unusual congestion both in the heart and lungs;—hence the rapidity of respiration, and the effusion of blood into the substance of the lungs, and its occurrence in the expectoration; hence likewise the apoplectic appearance of the countenance. In this case, although the kidneys were healthy, the urine was not perfectly free from coagulation; it was however the least degree of coagulation which is ever seen,—a few very small flocculi, and these not appearing till after some evaporation had taken place from exposure to heat.—I procured a very faithful representation of the aorta, which may hereafter be engraved: the preparation may be seen in the Museum of Guy's Hospital.

CASE XXXVIII.

JAMES SKELTON, æt. 39, a sailor, was admitted into the Clinical ward, January 10th, 1827, labouring under symptoms which pointed to confirmed disease in the heart. The action of that organ was tumultuous and rapid, its pulsations above 160 in a minute, while the pulse at the wrist was intermittent and irregular, and many beats fewer could be counted than at the heart. His health had not been such as to attract particular attention till within the last five or six weeks, when his present symptoms seem to have followed a severe attack of pain in the abdomen, attended with sickness and diarrhœa. The abdomen was still very tender at the time of his admission, particularly over the right hypochondrium. His complexion was sallow, his eyes tinged with yellow. Tongue furred, countenance greatly dejected, and he was obliged to be raised very high in bed. He was bled and cupped, and great attention paid to the state of his bowels, which were rather inclined to be costive. He died three days after coming to the Hospital.

SECTIO CADAVERIS.

Several ounces of serum in each cavity of the chest. The pericardium itself was healthy, but contained about half a pint of rather high-coloured yellow serum. The lungs were universally unyielding, and loaded with mucus; the vessels of the large branches of the bronchi gorged with blood. The HEART was much enlarged; both the ventricles were thickened and enlarged, and the left auricle very considerably dilated. The semilunar and the tricuspid valves were healthy; the aperture of the mitral valve was contracted, and a bony deposit occupied nearly half its circumference. The whole mucous membrane of the small intestines was very vascular, in many parts of a high red colour; the cæcum was thickened, and that together with a considerable portion of the colon had the same red colour, while in some parts, particularly just beyond the valves of the colon, the surface was abraded, and altered mucus with fæculent matter adhered firmly to the membrane. The liver, rather more resisting than natural, was strongly marked with a specked appearance of fine high red spots on a light ground, evidently the sections of small red tubes. The gall-bladder filled with thick dark-coloured bile. The spleen, in general pretty natural, had a peculiar appearance in one part as if blood having been effused, the red particles had been absorbed, and the coagulum had afterwards become imperfectly organized. The kidneys remarkably firm, otherwise natural. The brain and its membranes healthy.

In this case it would appear that the effusion of serum into the pericardium and pleura, which gave rise to many of the prominent symptoms of distress under which the patient suffered, arose from the previous disease of the heart. This effect, however, seems to have been hurried on by the state of irritation and inflammation of the intestines, which terminated in such extensive injury of the mucous membrane, and which seems to have been connected with the peculiar appearance in the biliary tubes of the liver itself, which bore all the aspect of being turgid with blood.—I trust in a future volume of this work I shall be enabled to give a representation of part of the colon and the liver, of which I have very correct drawings.

CASE XXXIX.

ELIZABETH WOOD, admitted Wednesday, November 23rd, 1825, under my care in so hopeless a state of ascites and anasarca that she was not expected to survive the day. Countenance sunk and hollow. Hands and feet cold, pulse indistinct. We were told the disease had existed already for eight months. It was obvious that nothing but support and stimulants could prolong life even for a day.—She died on the 27th.

SECTIO CADAVERIS.

Both lungs strongly adhered to the pleura costalis and to the diaphragm, yet allowed of a considerable accumulation of serum in the cavities. One of the lungs was, through at least half its extent, so completely consolidated by old inflammation as to resemble flesh; and in certain parts accumulations of dark purple blood, venous in character, had taken place, of the size of a middling walnut, rather undefined in extent, yet not imperceptibly shaded off into the surrounding flesh-like part. That part of the lung which contained some air was much compressed by the fluid in the cavity. The other lung was somewhat more pervious to air, but they differed rather in the degree than the character of the change they had undergone. The HEART was united pretty closely, by old bands of adhesion, to the pericardium. It was large; the left ventricle was particularly capacious, and its internal surface presented over a considerable extent a yellow appearance, from a change approaching to cartilaginous degeneration; in one patch about the size of a shilling, of irregular form, it appeared to be abraded as if by ulceration, and to have thrown out a slight coating of coagulable matter. The abdomen was distended with serum. The intestines very

much contracted, and filling a comparatively small portion of the whole; externally some parts appeared curiously marbled, and that appearance was not confined to the intestine, but spread over the mesentery; it was only to be compared to the mottle of a wash-hand ball of soap. I have once or twice seen the same in cases of death after tapping; but then inflammation had been rather recent, and it was obviously the effect of that reticular inflammation, if I may so term it, which sometimes takes place in serous membranes. In this case there was no complete proof in the structure of the peritoneum of previous inflammation, yet the liver was covered with an opaque adventitious worm-eaten membrane. The liver was small, in structure rather soft, and on cutting presented a yellow and purple marbled appearance. Gall-bladder moderately full of dark bile. Spleen small, with a scar-like depression, and a small tubercular deposit. Kidneys small, flabby, pale, not otherwise disorganized.

In this case the confirmed and extensive disease of the lungs may be considered the source of obstruction to the circulation, which, coupled with the disordered condition of the heart, gave rise to the dropsical symptoms preceding death. The pericardium had been decidedly inflamed at some former period. The internal lining of the heart was likewise obviously diseased; in some parts most distinctly thickened and rendered hard, and in one part there was the appearance of the internal surface having given way. This is by no means a common form of disease, and the preparation is carefully preserved in the Museum of Guy's Hospital. But I have seen within these few weeks a much more extensive destruction of the inner lining of the heart near its apex, where, as in the present instance, successive layers of coagulum had been deposited, apparently for the greater part separated from the blood within the cavity of the heart, thus removed somewhat from the natural influence of the heart's action. In that case no anasarca had I believe preceded death, but the gentleman died rather suddenly in syncope.

In the case of WOOD we are likewise led to observe the extensive peritoneal disease, and this in the progress of ascites is apt to become a very important part in the train of morbid changes. Looking to the cases which we have lately detailed, we shall perceive that in the cases of WRIGHT, of HOLBEACH, and of OPIE, it had gone to a very great extent; to such an extent, indeed, as completely to confine the viscera, and greatly to impede

their natural action ; and to a certain degree this is frequent in ascites ; not however, in general, till after the effusion has continued for some time and has gone to a considerable extent. It is probably the result of a slow inflammation excited and kept up by the unnatural stimulus of the fluid. This adventitious membrane becomes itself organized and subject to inflammation ; and I am inclined to think that the peculiar marbled inflammation which was seen covering the mesentery and the intestines in this case, and which was likewise observed in the case of CRANE, when inflammation had followed tapping, is a modification which peritoneal inflammation undergoes when complicated by the previous deposit of a thin layer of adventitious membrane.

CASES

ILLUSTRATIVE OF SOME OF THE VARIETIES WHICH TAKE PLACE IN THE RESULTS OF INFLAMMATION ATTACKING DIFFERENT TEXTURES OF THE LUNGS.

THE peculiarly delicate texture and complex structure of the lungs—their incessant action, and constant exposure to the most intimate contact of the atmospheric air under all its changes,—render these organs subject to inflammation attended by such various circumstances, that, when influenced by individual habit, both the symptoms during life and the appearances after death admit of numerous and very marked modifications. The different textures of the lungs are so closely connected, that in many cases the inflammation of the one soon involves the rest; and neither the symptoms during life nor the appearances to be traced when the termination has been fatal, admit of being completely separated. Yet in some cases this is so far otherwise, that there can be no hesitation in fixing the seat of the disease both before and after death, as being the mucous lining of the bronchi, the connecting tissue of the lung, or the pleuritic covering respectively.

With a view to illustrate this in some degree, I shall now adduce a few cases in which the mucous membrane of the trachea, bronchi, and air-cells was almost the sole or the chief seat of inflammation, and this proceeding to so great an extent as to have been the cause of death. Most of these cases occurred so long ago as the winter of 1813-14, amongst the patients who applied for relief at the public Dispensary then under the care of my two highly valued friends Dr. Laird and the late Dr. Bateman. Severe inflammation of the mucous membrane of the bronchi might well be considered the epidemic of that season; the number treated at the Dispensary for this disease was very great, and many similar cases were admitted into Guy's: the almost unexampled continuance of dense fog, and the severe frost which followed, appeared to influence in a peculiar manner the lining membrane of the bronchi; and a vast number of those who had previously suffered from diseases of the same kind, sunk under the severity of the attack.

CASE XL.

MARY JAMES, æt. 40, had for several years complained of cough, of which she had suffered one or two very severe attacks. About nine weeks ago she was delivered of a child, since which her cough had been more considerable, and it had been very much increased by the late fogs. On the 30th of December she applied to the Dispensary;—she was then confined to her bed with the most urgent dyspnoea and cough, with general pectoral uneasiness not referred to any particular part, and with most severe headache, particularly during the fits of coughing. She was capable of lying down on either side and on her back, but generally sat erect, as in this posture she felt herself most easy and her expectoration more free. She expectorated a great quantity of frothy puriform mucus of a yellow colour. She was bled, and blisters were applied: her bowels were freely opened, and the gently expectorant medicines which were thought most applicable were administered, but apparently with little effect. The pulse, which was at first above 120 and sharp in its beat, was lowered, and the pain or rather uneasiness of the chest a little relieved; but the headache, the restlessness, and the livid colour of the face, increased; the breathing became excessively laborious: she was covered with cold perspiration: the pulse became very rapid, but much too weak to authorize further bleeding. Blisters were again applied, and on the 3rd of January she died.

SECTIO CADAVERIS.—Jan. 6th.

The lungs appeared on opening the chest to be quite healthy, though rather distended with air; they yielded the natural crepitus, and were quite free from tubercles. On further examination it appeared that a very old and strong adhesion existed between the posterior and inferior part of the left lung and the pleura costalis and diaphragm; while on the right side a similar adhesion was found towards the superior and posterior part, near which a small collection of soft calculous matter was situated. But the chief thing to be observed was, that the bronchi were of a dark brown colour on their internal surface; and this became more marked the lower they descended: but on following the trachea upwards it entirely disappeared. On making a transverse section of the lungs, slight pressure showed the cut mouths of the bronchi filled with yellow puriform mucus, nearly approaching to the characters of pus, but more tenacious. This appearance was much greater in the left than in the right side, but was sufficiently marked in either. Not the slightest serous effusion had taken place into the lungs, nor into either of the thoracic cavities or pericardium,

nor was the colour of the pleura such as to indicate inflammation. The heart was healthy, but the mitral and tricuspid valves were thickened and rugose. The abdomen quite free from disease. On the left kidney was a small superficial vesicle, and the veins of the uterus were of a very large size.

This then appears to have been a case of pure acute bronchitis; and it is worth remarking to what an extent the inflammation of the internal mucous membrane had proceeded without implicating either the pleura or the substance of the lung, or inducing effusion.

CASE XLI.

JOHN HIGHAT, a man rather advanced in years, applied January 6th, 1814, to the Dispensary for relief. It appeared that he had formerly been a hard drinker, and had been subject to a constant cough since he had the measles at the age of twenty-four. This cough had greatly increased since the dense fog had prevailed for the last week, and on the 1st he found himself unable to leave his house. When visited on the 6th, he chiefly complained of urgent oppression at the chest, without pain, but with much headache: he could lie on either side or the back, but not with comfort; the latter posture in particular increasing his dyspnoea and difficulty of expectoration. The expectoration, which was in large quantity, was yellow mucus. Countenance livid. Pulse 126. Bowels rather bound. Tongue purple, and loaded. Urine scanty, and becoming turbid on standing. Feet always cold.

7th. Slight delirium during the last night. He denied having any pain, and his symptoms were unaltered. Towards the evening he became very delirious.

8th. His mind constantly wandering. Pulse 130, by no means weak. Respiration short and frequent, with much sound from the mucus collected about the throat. Countenance very livid.

9th. He had been delirious during the night, wishing to get out of bed. Pulse very frequent, and weaker than it had been. In the afternoon his face was much more purple, and the expectoration greatly diminished: he talked rationally for a moment only, and immediately passed to some imaginary topic. The urine had changed its character, and had only a slight cloud floating in it. For two days longer he lingered on without any particular change of symptoms, constantly delirious, and talking aloud. His pulse varied much, but at times did not appear weak.—It was not possible to obtain an examination in this case, but the symptoms are highly characteristic of bronchial inflammation. The violent cough, the copious expectoration, the oppressed feeling of the chest, the absence of pain, the intense headache, the singular state of mind, the loaded urine, form a collection of symptoms scarcely to be mistaken.

Of the treatment in this case I have very imperfect notes; and I have been chiefly induced to give the case from the prominence of that delirium which is one of the most alarming symptoms in the disease; and seems to arise from the imperfect supply of decarbonized blood which is sent to the brain. Nearly the same combination of symptoms will be seen in the following case.

CASE XLII.

THOMAS WADE, æt. 70, applied to the Dispensary, January 23rd, 1814, to be visited at his own house. I saw him about four o'clock. He had been subject to winter-coughs for many years. During the late fogs, about a month past he became much worse, yet was able to go out till within the last ten days, when he became rapidly worse. When I saw him he was sitting in his chair, much oppressed in his breath, coughing, and expectorating puriform mucus in large quantities: he denied having any pain whatever: his countenance was pale and sunk. Pulse quick. Urine high coloured. Bowels pretty regular. At night he was said to become very cold, and for the last two nights he had been delirious. He died in about thirty-six hours.

CASE XLIII.

CATHERINE DUNCAN, æt. 34, having been habitually subject to cough, became so much worse on the 24th of January 1814, that she requested to be visited from the Dispensary. She had been much exposed to cold on the evening before, during a distribution of bread and coals. Her dyspnœa when first visited was very great. Pulse 100. Respiration 27. Bowels confined. On the following day, pulse 120, weak. Respiration 30. The expirations much longer than the inspirations; much wheezing and dyspnœa: she denied having any pain in the chest. She generally lay quite on the back but raised, though she could lie on her sides; she felt equally oppressed on whichever side she lay. Cough frequent: expectoration very profuse, but not very puriform. No appetite. Bowels freely opened. Countenance pale. Limbs universally cold. She complained much that while she lay or sat in bed frightful objects appeared to her, though at the same time she was quite sensible that it was a kind of passing delirium. In this way,—with the symptoms changing a little, at times considerably relieved so as to afford hope of recovery, but the pulse at last becoming more frequent, and the respiration 50 in the minute,—she continued for seven days, when she died.

SECTIO CADAVERIS.—Feb. 3.

On opening the chest the left lung was found to adhere firmly throughout its whole extent to the pleura of the ribs, to the pericardium,

and to the diaphragm. The right lung was perfectly free from adhesion, but remained unusually distended, and afforded a very peculiar sensation to the fingers when pressed between them. The healthy crepitus was wanting, and in its stead the lung had acquired a soft dough-like feel, its colour was almost white; on cutting into this part, however, no serum and very little mucus exuded, and the substance of the lung floated in water. Between the upper rings of the trachea, particularly on the back part, extensive plexuses of large vessels were seen, and on descending lower the whole became perfectly red with vessels, the deepness of the colour increasing in proportion as we followed the ramifications. The redness was rather inclined to purple at the moment of opening, but soon became more florid by exposure to the air. The quantity of puriform mucus in the bronchi was less than I have seen in some similar cases, and did not exude from the bronchi as we cut through them at some distance past the bifurcation. The heart perfectly healthy. The abdomen afforded no diseased structure. The mucous membrane of the stomach was unusually traversed by large veins dispersed in a stellated form, particularly towards its large extremity. The bladder was also more than naturally vascular on its internal surface.

CASE XLIV.

R. P. an Italian sailor, a robust man about 30 years of age, was admitted into Guy's Hospital, January 25th, 1826, labouring under extreme dyspnoea and apparent constriction across the chest. His respiration was 44 in a minute, and each time he expired it was with an effort and a slight groaning noise. His voice was feeble and rather hoarse, and he complained of a sense of dryness in his throat. The cough, which was not very severe, was harsh, with slight mucous expectoration. Pulse 120, sharp: he constantly sat up in bed, and was scarcely able to lie, feeling most ease while leaning a little forwards as he sat. Tongue white, and furred at the back part, though not greatly loaded: great anxiety of countenance, and his face and eyes suffused and tumid. He said that his complaint came on about three weeks ago while at sea, with cold and cough, but he was able to work most of the time, and only for the last five days had been completely laid up. He was bled about five days before admission, at the time when he felt himself grow so much worse.

Mittatur sanguis e brachio ad f̄xxiv statim.

R Antimonii tartarizat. gr. ½,

Aquæ destillatæ f̄℥jss,

Syrup. Simpl. f̄℥j;

Fiat Haustus secunda quaque hora sumendus.

In the evening at eight o'clock he appeared slightly relieved. The blood was buffed with a large proportion of firm crassamentum.

Repetatur Venæ-sectio ad f3xiv.

Applicetur Emplast. Cantharidis sterno.

26th. The blood drawn in the evening was less buffed; he had been unable to lie down in bed. Respiration 40, of the same character. Pulse 132, weaker than yesterday: he has not suffered the blister to remain on, so that it has not acted. Tongue cleaner: two copious loose light-coloured dejections.—To have mild nourishment.

Repetatur Emplastrum Cantharidis sterno.—Aug. Antimon. tartarizat. ad gr. $\frac{1}{2}$.

Habeat Extract. Conii gr. v. Pulver. Ipecac. gr. j. forma Pilul. quarta quaque hora.

27th. His medicines have made him sick. He slept twice for a short time during the night, lying on his back. Countenance rather improved. Respiration 36, and not so laboured. Expectoration more loose. Pulse 120, very weak.

Antimonii tartarizat. gr. $\frac{1}{8}$ secunda quaque hora.

28th. Respiration 44, more difficult; and he speaks of pain in the lower part of the chest running to the back on the left side. Pulse 120, weak. Expectoration more free: he has vomited two or three times. Bowels open.

Infricetur Linimentum Antimonii tartarizat, scrobiculo cordis.

Applicetur Cataplasma Sinapis amplum, parti posteriori thoracis.

R Extracti Conii gr. v,

Pulver. Scillæ gr. j,

Pulver. Ipecac. gr. j;

Fiant pilulæ sexta quaque hora sumendæ.

In the evening he appeared worse, his breathing very laborious. Mr. Stocker, who saw him, ordered some leeches to be applied to the upper part of the thorax.—He died the following morning.

SECTIO CADAVERIS.—Jan. 31st, 1826.

On opening the cavity of the chest, the free edges of the lungs presented themselves of a remarkably pallid colour, with neither gray spots, as is so usual, nor any motley appearance; the colour was yellowish, the edge rather more rounded than natural, and the whole lung receded very little on the admission of air into the cavity. On feeling and squeezing the lung, it afforded scarcely any crepitus; it was not œdematous to the feel, but might be termed plastic; it was quite soft and yielding, and even the posterior part did not evince nearly so much hardness from gravitated blood

as we usually find ; some slight adhesions, long and membranous, attached the right lung to the pleura costalis, and the two lobes of the lung to each other. On cutting into the lung, even the smaller bronchial tubes were observed when squeezed to give out puriform matter, of so tenacious and dense a quality as to come out figured, and remain projecting the tenth of an inch on the cut surface: the tubes themselves were of a light rose colour or slightly pink ; the minute air-cells of the lungs were infiltrated with the same yellow matter which was seen in the bronchi, so that in parts the texture offered resistance to the knife and cut evenly. The opening into the larynx was a good deal more contracted than natural, from inflammatory thickening ; and the whole trachea had a slight pink blush, which increased after the bifurcation, and was of a more purple colour. A considerable quantity of rather frothy mucus occupied the large bronchi. The heart was healthy. The viscera of the abdomen gave little or no evidence of morbid action, the mucous glands were rather enlarged over the whole internal surface of the small intestines.

It appears that in this case inflammation had existed, and had been going on for several weeks throughout all the air-passages from the epiglottis to the minutest air-cells, that this was not of a very acute kind, but terminated in the clogging up of the minute cells and the small bronchi with thick puriform mucus. No hepatization had taken place, as in inflammation of the substance of the lungs followed by the effusion of fibrin, when the lung instead of being pale and plastic is either gray or dark-coloured, and is friable.

It would not be difficult to multiply cases to a much greater extent serving to prove the fact, that inflammation of the lining membrane of the air-cells is a disease altogether distinct from that pneumonic inflammation which attacks the substance of the lungs. It is a disease likewise which in general requires a very different treatment ; for although in the recent case and in the young and robust subject depletion may be used with great advantage, yet as this is a disease which returns generally each successive winter with increased violence, by far the greater number of severe cases occur in those who have long passed the meridian of life ; and in them scarcely the smallest loss of blood can be borne without incurring the imminent danger of suddenly reducing their strength, and rendering them un-

able to free the lungs from the copious secretion of mucus which absolutely covers the membrane, and renders it mechanically impossible for the lungs to perform their functions.

TERMINATION OF PNEUMONIA IN SUPPURATION.

THE following case illustrates this termination of acute inflammation of the lungs in a striking manner, because the exact period of the first attack is well marked. The disease was completely confined to one lung, and nothing like tubercular deposit existed, to complicate or disguise the appearances.

CASE XLV.

JAMES SMITH, aged about 30, was admitted under one of the surgeons of Guy's Hospital, March 21st, on account of a stricture. On the day of his coming to the Hospital he suffered an attack of catarrh and pneumonia; before that time he had never experienced cough, and appeared to be well except as regarded the stricture. He was bled two or three times, and other active treatment was adopted. On the 21st of April I was first requested to see him; at which time the rapid pulse and breathing, the great emaciation, the distressed countenance, and the purulent expectoration, clearly evinced the advanced state of pulmonary disorganization; and he died within a week.

SECTIO CADAVERIS.

The right side of the chest was perfectly healthy. Almost the only seat of disease in this case was the left lung, in which we distinctly traced the termination of acute inflammation in general infiltration, and this going on to suppuration. The general substance of the lung was solid, its colour gray. A large irregular cavity was formed in the middle lobe, undefined by any distinct cyst, such as is usually seen in true tubercular phthisis, though there had been an effort in the vessels of the surrounding parts to throw out fibrin in such a manner as to prevent the indefinite extension of the suppuration. The cavity had in part emptied itself into a large branch of the bronchial tube; the pus which remained was very offensive and of a dark colour: the lung, where the abscess approached the surface, was

attached to the ribs. There were pretty general adhesions, and the lower lobe was covered with thick shreds of yellow fibrin. On the surface of the lower lobe were seen several small spots about the size of a shilling or less, where suppuration had also taken place, and the small collections of pus were only retained by the pleura. In no part of the lung was there any appearance of tubercular deposit. The heart was healthy. The abdominal viscera were all in a very natural state, not the slightest appearance of ulceration or abrasion was to be traced on the mucous membrane of the intestines.

CASE XLVI.

I HAVE lately examined a case where pneumonia terminated about six weeks after the first attack in suppuration, but where there was also a disposition to tubercular disease of the lung. The left lung was nearly healthy and quite free from tubercles, but the right side of the chest was greatly diseased throughout. The whole lung was covered with an adventitious membrane of a honey-comb appearance, and the pleura costalis was lined with the same. The upper lobe at its angle adhered so strongly that it tore away, leaving a part behind attached to the ribs, and thus a large irregular cavity was laid open, which was not lined by a membranous cyst, but appeared broken down and full of pus: two or three other cavities of the same kind existed in this lobe, and they had approached so close to the surface, that the pleura alone and the membrane deposited externally to the pleura, prevented them from bursting into the cavity of the chest. The remaining part of this lobe was consolidated by an infiltration of fibrin, assuming in some parts the characters of the peculiar matter which marks tubercular phthisis. The remaining lobes of this lung were thickly pervaded by miliary tubercles in their early stage.

This was a case where both the pleura and the substance of the lung were inflamed. There was no reason to believe from the previous history of the patient, that the tubercular disease had existed before the attack of inflammation; nor was the left lung, which had not been inflamed, affected with tubercles. It is probable that the disposition to tubercles in this case had determined the inflammatory action more completely to the upper lobe, which is usually the seat of the most advanced tubercular disease, but is not the most common seat of pneumonia.

TERMINATION OF PNEUMONIA IN GANGRENE.

THIS is one of the least frequent terminations of pneumonia: and in whatever texture the primary inflammation may have been seated, the destructive process is not confined to one or the other texture, but, like suppuration, involves the whole. It seems however, from the state of the surrounding parts and from the previous symptoms, to be a sequel of inflammation first taking place in the substance of the lung, rather than in the mucous membrane, the ordinary symptoms of inflammation of the lung having in general existed for a longer or a shorter time. In some cases, gangrene is the result of inflammation so rapid in its course as to be almost unattended by the usual symptoms, or at least they have passed nearly unobserved; and the sudden and very remarkable prostration and collapse are sometimes amongst the first indications of the fatal change. The extent to which this mischief takes place differs much: occasionally the whole of one lung appears to have gone almost at the same time into a state of gangrene (Case L.): in other cases, a whole lobe is affected (Case XLIX.): in others, only a part of one lobe, but of considerable extent, and an effort is made by the surrounding vessels to form a line of separation (Case XLVII. Plate VII.): and in other cases, small patches or portions of the inflamed lung have passed into this state (Case XLVIII.). There are other cases, where the process of sloughing seems to depend upon suppuration, going so far as to detach some part of the substance of the lung and cut off its supply of blood, leaving a central slough; and this occurs either as a sequel of pneumonia (Case LII. Plate VIII.), or as the result of the softening of tubercles, in a manner which will be described when speaking of Phthisis. We likewise find cases where the sloughing is accompanied by a suppuration more or less diffused through the cellular membrane and the air-cells, producing a state of those parts resembling the slough of a Carbuncle (Case LI.). In whatever way it may occur, or to whatever degree, as soon as any communication is formed between the sphacelated portion and the bronchi, the remarkable fœtor of the breath becomes a most prominent symptom, and, connected with the excessive prostration of the powers of life, forms one of the distinctive marks of this change having taken place.

CASE XLVII.

J. W. aged about 30, appeared a healthy and intelligent child till the age of two years, when she suffered very severely from convulsions on the appearance of small-pox; since that time she was supposed no longer to have had the degree of understanding suited to her age, and as she grew up showed more evidently a deficiency of intellect amounting to complete idiotism. For one year she was under the care of a physician in high estimation for the treatment of mental diseases, and was admitted into the asylum of Guy's Hospital about seven years ago, since which time she has been in a state of complete imbecility. From a habit of striking herself about the breast, it was necessary in general to confine her hands, but in other respects she was completely inoffensive. About twelve months ago she had an epileptic fit; otherwise she had enjoyed moderate health, and had not been subject to cough, nor indeed were any symptoms of bodily ailment observed for which medical assistance was deemed necessary.

May 21st, 1825. At three o'clock A.M. the ward was disturbed by shrieks and groans proceeding from her chamber, and the nurse found her in a fit; purple in the face, foaming at the mouth, and greatly convulsed. Assistance was immediately procured from the resident medical officers. Sixteen ounces of blood were taken from the arm, and as the state of stupor with great suffusion of countenance continued, sixteen ounces more were shortly afterwards taken from the neck by cupping; an enema was ordered with half a drachm of Extract of Colocynth, as it was impossible to administer remedies by the mouth. In the afternoon of that day she was seen by one of the physicians of the Hospital; and as her bowels had not been acted upon, one minim of the Croton oil was ordered, and a powerful purging injection.

The next day, the 22nd, I first saw her: she appeared to be sinking; her breathing was laborious, and was attended with some noise as if from mucus obstructing the upper part of the trachea. Pulse quick and small; she could take neither nourishment nor medicine by the mouth, and was supposed to be dying. The bowels had been well opened. Mustard cataplasms and external stimulants were employed.

23rd. She was so much recovered that she was able to put out her tongue, after being frequently asked;—it was moist: she appeared to see those around her. Her head felt hot, and her countenance was rather suffused. She still had stertorous, rapid, and difficult breathing, but no cough; and she lay constantly on her back.

Applicetur Emplastrum Cantharidis amplum Sterno et Scrobiculo Cordis.

Sumat Hydrarg. Submuriat. gr. iv statim.

24th. So much better that she seemed to be returning to her usual state. She sat up for an hour or two, and appeared to know those who were about her.

25th and 26th. Continued to go on well. Her bowels were kept open, and it was hoped that the effects of the fit were passing off.

27th. She seemed unusually low and sinking. Her hands were cold. Her tongue a little dry: she lay in bed on her back. Pulse feeble; respiration hurried. She was ordered to have four ounces of red wine given with sago and arrow-root, and to take five grains of the subcarbonate of ammonia every four hours.

28th. No particular alteration, but some patches of ecchymosis had made their appearance on the nates where pressure was made, and on the legs and thighs. The attendants were ordered to give whatever support she could take.

29th. In the morning the nurse considered her better; but at 11 A.M. I found her very much sunk. Countenance collapsed: hands and feet cold. Pulse scarcely to be felt. Tongue dry, not furred; but she could not put it out. Respiration frequent and stridulous, almost stertorous. She lay on her back. The patches on the nates had excoriated.

Applicentur Catapl. Sinapis Scrobiculo Cordis et Pedibus.

I saw her again at 3 o'clock, when her countenance was suffused and purple, and she lay in the same state.—In the evening she died.

SECTIO CADAVERIS.

Skull unusually thick and heavy; the thickening greater in some parts, so that particularly the anterior part of the anterior lobes of the brain was depressed, and a hollow formed in them. The whole appearance of the brain on removing the skull was remarkably small and contracted, of an oval or egg-shape—the small end forwards. The depression in the fore part was greatest on the right side; the arachnoid on that side was very opaque, and thickened, and some serum was effused beneath it. The brain itself unusually firm, so that all the parts were beautifully seen. The ventricles were small and contracted, even in proportion to the brain: they contained a little more serum than natural. The cerebellum was large in proportion to the whole. No ossification in the arteries; no ossification in the dura mater or its processes. The pineal gland contained no gritty matter. The pituitary gland was very deeply imbedded in the sella Turcica. All the projections in the internal basis of the cranium, as the clinoid processes and the crista galli, were large and thickened, as if sharing in the excess of bony deposit, through the whole skull; the orbital plates of the frontal bone were raised in high arches, so as to imbed the crista galli, and greatly to encroach on the brain. All the sutures of the skull were completely obliterated; the brain weighed thirty-five ounces and a half troy. The right cavity of the chest was healthy; the lung on that side natural. On cutting through the cartilage on the left side a rush of air seemed to proceed from

the cavity; and on opening it, it was found that the lung was occupying but a small portion of the back part of the cavity; that the whole presented a cavity bounded by the pleura of the ribs, the pleura of the pericardium, and the pleura of the lung, covered with a thick yellow coating of fibrin, in some parts a quarter of an inch in thickness, and in some parts rather gelatinous; and on removing the whole lung on that side, it was found that a considerable portion of the lower part near the diaphragm was in a truly sphacelous state, quite soft, feeling as if a semigelatinous substance were contained in the pleura. The colour of this part was nearly black: it was not covered with so thick a coating of fibrin as the greater part of the lung, and there was an obvious line of demarcation between the mortified part and the rest of the lobe, with a blush of red on some parts close to the edges of the sphacelus. Some red size was thrown into the pulmonary vessels, but none entered the sphacelated portion. The gall-bladder was contracted around a large collection of biliary concretions, some of which were likewise found in the cystic duct; the other ducts seemed healthy, as did the abdominal viscera generally, except the appendages of the uterus, where, about the broad ligament, three or four transparent cysts of the size of a bean, of different consistence and colour, were observed.

In this case the state of mental imbecility under which the patient laboured, deprived us of the means of ascertaining her actual feelings: but many of the usual symptoms of inflammation of the lungs were so slight as not to have attracted the notice of the attendants; and the only object to which medical assistance was at first directed, was the urgent epileptic attack by which she had been seized. From the death-like collapse into which she afterwards fell, she rallied a little for three days, but still there was no marked cough. Probably could she have expressed her feelings, she would have complained of oppression or of pain in the chest; but of this we learnt nothing; and the prostration of the powers of life was the only striking feature in her condition which led to a belief that some fatal change had taken place; and the peculiar dyspnoea and turgid countenance pointed to the lungs as the suffering organs. The extent to which disease had taken place, as I should conceive from previous pulmonic inflammation, was such as in some degree to have insulated the part which suffered from gangrene, surrounding it by a solid deposit in the cellular

membrane: it was not therefore surprising that the peculiar fœtor which has been mentioned as occurring in gangrene of the lungs, should not have evinced itself in this case. (Plate VII.)

CASE XLVIII.

JOSEPH RICHARDS, æt. 51, was admitted into the Clinical ward, November 30th, 1826, affected with fever, under which four of his children were at the same time suffering, having been received into the Hospital some days previously. The symptoms under which he laboured were distinctly those of fever, with some difficulty of breathing, and pain at the pit of the stomach on inspiration: these latter seem to have been the only symptoms which directed attention to the chest; otherwise the general febrile commotion, the pain and confusion in the head, and the irritability of his bowels, were the chief objects of remark until the 6th of December, when a troublesome cough was first mentioned in the report. At that time his tongue was covered with a thick white fur. He had passed a very bad night, constantly talking, and complaining greatly of thirst: he had passed five or six fæculent dejections, with one of which a large tape-worm had come away. He complained of pain on taking a deep inspiration, and also when pressure was made at the pit of the stomach. He lay on his side, constantly moaning, and felt excessive debility.

December 7th. Made much noise in the night, attempting to get out of bed. Pulse so quick as not to be counted, and exceedingly small. Tongue covered with an orange-coloured fur at the sides, dark brown and very dry in the centre. He moans constantly and has muttering delirium, and lies prostrate on his back, moving neither his head nor any other part. He has great pain in the right hypochondrium on inspiration, and it is excessive on pressure. Respiration 26. The head, the extremities, and the whole surface of the body cold, feels very low and weak, and says himself that he cannot recover.—He died at 5 o'clock the following morning.

SECTIO CADAVERIS.

On opening the chest the lungs were observed to be collapsed more than usual; no fluid was found in the cavity. In both lungs there was evident tubercular consolidation in an inactive state occupying the apex of the upper lobe; the whole of both lungs seemed to have suffered from a degree of inflammation, which had rendered them harder than natural; and on cutting into them, a good deal of reddish serous fluid escaped, frothy, with minute air-bubbles. There was a very slight trace of pleuritic inflammation on the bottom of the lower lobe of the left side; but still more obvious in-

flammation had existed on the corresponding part of the right lung, where a thin layer of fibrin had been thrown out; this was easily separated, being quite recent; and then it was found that in two places gangrene had taken place in the lung; one on the posterior part of the lower lobe, about the size of a shilling, a dark spot being perceived in the corresponding portion of the pleura costalis, where the gangrenous part adhered: the other, a spot rather larger, nearly the size of a half-crown, on the lower side of the inferior lobe; it was very slightly attached to the diaphragm, and a layer of livid-coloured adhesive matter was seen on that part, exactly corresponding in size. This mark was scarcely perceptible on the lower side of the diaphragm; but still a corresponding dark spot was marked on the convex surface of the liver, and beneath this the substance of the liver was slightly softened: on minutely examining the sphacelated portion of the lung, it appeared that the surface was of a dead yellowish colour, that around it the pleura was darker than natural, as from venous congestion; and a fine line was perceptible, so that the demarcation of the sphacelus was very distinct; on making an incision, it was found that the sphacelated portion occupied about a cubic inch of the substance of the lung, which was completely disorganized, of a green semifluid consistence, and surrounded by a condensed layer, which might be considered as a circumscribing wall, though not a complete cyst: the surrounding part of the lung was somewhat harder than the rest, approaching to a state of hepatization; and although this was harder immediately around the sphacelus, yet it was afterwards gently shaded off into the consistence of the lung. The trachea was slightly inflamed, but the bronchi were nearly natural. The heart healthy. The stomach healthy; its internal membrane a good deal corrugated. The intestines rather contracted, and the lower part of the ilium highly congested in its external appearance, and having the mucous membrane for about a foot and a half quite red, as if covered with blood, evidently irritated; but bearing no sign of ulceration; more than half-way up the jejunum was found a tape-worm still living, about two feet in length, and its head was discovered. The mucous membrane of all that part of the intestines in which the worm lay, and both above and below it, looked irritated, corrugated, and filled with a creamlike mucous matter. All the other organs were healthy.

CASE XLIX.

A patient under the care of one of the surgeons of the Hospital, on account of a stricture and malignant ulcer of the œsophagus, having for some time laboured under pulmonic symptoms, sunk very rapidly.

SECTIO CADAVERIS.—Jan. 25th, 1827.

On opening the right cavity of the chest, a most singularly fœtid smell arose; and on removing the sternum the cavity was seen filled for the greater part with fluid of a turbid red colour: the front part of the lung partially adhered; the general mass of the lung was contracted by the pressure of the serum: on drawing the lung forward, it was found that the greater part of the superior lobe was in a state of complete gangrene, converted into an olive-coloured mass, without organization or consistence. The left cavity of the chest and the lung it contained, quite natural. The œsophagus about three inches above its termination in the stomach was affected with a malignant ulcer, which had been the cause of those symptoms to which the attention had been chiefly directed during life; and this ulcer approached quite close to the gangrenous part of the lung,—whether it had actually formed a communication with the lung we could not clearly ascertain. The only other peculiar appearance was in one kidney, which contained two cysts in its cortical portion, each about the size of a marble, filled with a dark fluid like altered blood.

CASE L.

—HARRIS was admitted into Guy's Hospital under my care, June 13th, 1827. It appeared that three months before he had been attacked with a severe cold and cough, for which he had been twice bled, and received some benefit: his illness, though at times very severe, did not altogether prevent him from working, so that occasionally even till within the last ten days he had pursued his occupation as a night watchman. At the time of his admission it was quite obvious that no relief could be afforded; his prostration was excessive. Respiration 40 in a minute. Pulse 96, with considerable action: his breath was dreadfully fœtid, so that it was difficult to approach the bed; and I suspected some external sloughing sore, but there was nothing of the kind to be found. The expectoration was brown muco-purulent matter, less fœtid than the general atmosphere around the bed, which was tainted by the breath. Bowels rather loose. Tongue moist, but covered with an olive green coating towards the centre

and back. He had not been in the Hospital many hours before he became desirous of being taken home, and his relations accordingly removed him. He died within twelve hours; and was examined the next day by Mr. Dunn and an intelligent pupil at the public Dispensary, at which institution he had previously been a patient. As I had not myself an opportunity of being present at the inspection, and was very anxious to know the appearances, I was favoured by one of these gentlemen with the following short account.

SECTIO CADAVERIS.

On removing the sternum slight adhesion was found of the pleura pulmonalis to the pleura costalis on the right side; but the lung was not much diseased, scarcely indeed altered from the natural appearance. On the left side the pleuræ adhered firmly, and were thickly covered by a coating of fibrin. The lung was in a state of gangrene, of a livid purple colour, soft, and most highly offensive; and on cutting into it a very offensive thin milky fluid escaped. On opening the bronchi, their smaller ramifications were highly injected, and the mucous membrane thickened; but in the trachea the vascularity was much less. The heart and the liver were healthy.

CASE LI.

JOHN WATSON, æt. 30, was admitted into Guy's Hospital, June 27th, 1827, considerably emaciated; with frequent cough and very copious expectoration of a brown puriform fluid most highly offensive to the smell: his voice very hoarse and feeble, and his bowels much relaxed. It appeared that he had been subject to cough, particularly in winter, from his infancy, when he had the croup; that he had been unable to work regularly for the last six months, in consequence of an accidental blow he had received on the loins; but that about a fortnight before he was brought to the Hospital his cough became worse, and he complained of great pain in the right side. He was then under the care of an eminent surgeon in the Borough, by whom he was bled freely, and blisters were applied near the seat of the pain; but as he became worse, he was brought to the Hospital; and died July 19th. I never saw him during his life, except once accidentally; but in company with Dr. Hodgkin and Mr. W. J. Fagg (from whom and the relations of the man I obtained the above facts,) I witnessed the examination of his body.

SECTIO CADAVERIS.—July 20th, 1827.

On raising the sternum a portion of the lower lobe of the right lung came into view, covered by an adventitious layer deposited upon its pleura;

a very foetid smell arose, and it was found that the cavity contained about a pint of the most offensive fluid, of a turbid yellow whey-like appearance; and there were marks of inflammation on the pleura costalis, as well as on the surface of the lower lobes of the lung. On examining the right lung it was found that the apex was the only part free from disease: in the middle lobe a large portion was found of which a part was excavated completely, and a dense, uneven, tolerably clean surface was left; the greater part was in a state of diffused unhealthy suppuration, filled with a mixture of pus and of sloughing cellular tissue: some parts might be termed gangrenous, though it was rather from the destruction of life by surrounding suppuration, than by a true process of mortification, as observed in Case XLVII. and represented in Plate VII. I conceive it resembled very exactly the morbid appearance found in HARRIS, Case L. The lower lobe was in the same state, but rather less advanced: it did not appear that any of the cavities had here actually discharged themselves by the bronchi; but four or five irregularly-shaped portions, one of two or three inches in extent and the others smaller, had suppurated with ill-conditioned pus, still held together by the cellular membrane; so that when cut into, it retained a flat surface where divided by the scalpel, though all the cells were evidently filled with pus, and the whole was of a dull yellow semi-fluid appearance. The extent of these suppurations was marked distinctly on the outside of the lung, the pleura being there changed into a dead yellow colour, which had an irregular but most perfectly defined margin; and the part felt soft, much resembling the surface over the abscess in Plate VIII. Fig. 1., or the surface described as covering the sloughs in Case XLVIII. A very small portion of this lung, except the apex, was at all healthy. The bronchi which went towards the diseased parts were highly vascular and thickened. The left lung was perfectly healthy. The larynx seemed to have been the seat of chronic inflammation, and was in some parts slightly thickened, but there was no ulceration. The trachea also had suffered from former irritation, and its lining membrane was opaque. The heart was healthy. The stomach was not obviously diseased. The duodenum appeared to have been the seat of inflammation at some former period, from the black speckled deposit which had taken place in its mucous membrane, and from the trace of an old but healed ulcer. The small intestines contained watery fluid tinged with bile, and were rather vascular; but there was no trace of ulceration: and the same was the fact with re-

gard to the valve of the colon, the cæcum, and the colon itself. The kidneys not diseased, the spleen healthy.

It cannot fail to be observed that a strong analogy exists, as far as can be traced, between this case and that of HARRIS (Case L.), who was admitted into the Hospital only a fortnight before. The total absence of tubercular matter sufficiently distinguishes the appearance of this disease from that observed in phthisis; and the only question is, whether we are to consider this as an instance of suppuration or of gangrene. It is more correctly to be viewed as a combination of the two, very closely resembling that process which takes place in *Anthrax*, where the cellular membrane sloughs in the midst of unhealthy suppuration diffused through the tissue: and it may justly be remarked, that an approach to this condition of the parts takes place in the majority of cases where suppuration follows pneumonia, unless the previous hepatization of the lung has been very complete; in which case the process of suppuration is set up in a new structure, more solid than the spongy cellular structure of the lung, and then approaching more in its texture to the parts hardened by tubercular deposit which go into a comparatively healthy suppuration in phthisis.

CASE LII.

EDWARD HASSLE, admitted under my care February 15th, 1826. This man had been previously in the Clinical ward under Dr. Cholmeley, affected with *rupia prominens*, from which he recovered completely, and left the house in a weak state of body four months before. He was obliged very shortly after to resume his work, and was engaged in labour which exposed him very much: he contracted cold almost immediately, but for the last two months his cough had greatly increased, and for the last three weeks he had been quite unable to work. He was extremely exhausted and debilitated. Pulse 120, feeble. Tongue loaded with a white fur. Countenance suffused, a purple tinge upon the nose and lips. Respiration 36; his attempts to make a deep inspiration always occasioned cough.—He was ordered to have mild nourishment.

R Extracti Conii gr. v,
Pulver. Ipecac.,
Pulver. Scillæ aa gr. j;

Fiant pilulæ, ter quotidie sumendæ.

Habeat Mistur. oleos. cum Manna; et applicetur Emplastrum Cantharidis
Sterno.

16th. Pulse 112, intermitting. Respiration 60. Tongue more natural, moist at the tip and edges. The blister has not risen.

Applicetur Cataplasma Sinapis Sterno, et postea Emplast. Cantharidis.
Repetantur Medicamenta.

17th. Respiration very rapid, and appears almost entirely effected by the diaphragm. He tells us that at the commencement of the attack he had pain in the right side of the chest. He lies on either side. The blister was applied too low down.

Applicetur Emplast. Cantharidis Sterno.

18th. Cough very troublesome. Respiration 56.

19th. Mr. Stocker saw him, and found him so sunk and debilitated that he thought he could not live many hours. When I saw him on the 20th, I found him as reported to have been on the day before. He had been lying for the last thirty-six hours in a drowsy state on his left side, with his head raised by pillows but falling forwards: was capable of being roused, but was too weak to answer questions. He had taken very little nourishment. Pulse 120, weak. Urine scanty and red, not coagulable by heat. Respiration 40, with great effort, and much mucus rattling in the throat. Hands purple.

Applicetur Cataplasma Sinapis parti posteriori Thoracis.—Habeat Infusi
Serpentarii fʒij cum Vin. Ipecac. ʒxx. et Acet. Scil. ʒxx. quartis horis.

He died in the night.

SECTIO CADAVERIS.—Feb. 21st, 1827.

He was not excessively emaciated. The marks of the rupia under which he had formerly suffered were very distinct on the legs, arms, and other parts of the body: they were quite healed.—The right lung was somewhat consolidated in the upper lobes, which were loaded with serum, so that on cutting into them a great quantity of fluid slightly tinged with blood flowed out, and they contained scarcely any air. There was no tubercular deposit; but the lung was brittle, breaking down under pressure. The lower lobe, on the contrary, was too much distended with air, and was in a state of emphysema. There was no material adhesion of the lung to the pleura; but a flake of recently effused yellow fibrin covered one part of the upper lobe, and cemented it slightly to the neighbouring part of the lung. On the left side there were no adhesions. Here also the upper lobe was most diseased: it was consolidated from inflammation, but contained no tubercular matter; quite close to the surface were felt two or three soft spots of the size of a shilling, surrounded by slightly elevated and red margins (Plate VIII. Fig. 1.): on cutting into these, pus slightly tinged with blood flowed out, and cavities were discovered of the

size of a small walnut, surrounded by a thin cyst of coagulable matter, flocculent within, and containing pus; but in the centre of each was found a lump of a fleshy consistence and brown red colour, firmly attached as by a peduncle to the bottom of the cavity. On cutting deeper into the lung, a few other similar cavities were found (Plate VIII. Fig. 2.), one of which was not larger than a pea; yet every one without exception had the same fleshy lump or coagulum firmly attached to some part of the cavity; in some cases to the top, in some to the bottom; and the handle of the scalpel, when drawn over them, more easily broke down their substance than detached them from their peduncles. It was difficult to say what these bodies were; but they appeared most like a discoloured slough of cellular membrane, not yet completely loosened from the surrounding parts. The lower lobe of this lung was tolerably healthy, but like the lower lobe on the right side rather too crepitant. The bronchi were in every part very vascular, and in the large branches throughout the lungs a great quantity of sero-mucous secretion was collected. The heart was rather muscular. The liver healthy. The gall-bladder sufficiently supplied with good bile. The pancreas, kidney, and spleen, all healthy. The stomach afforded a marked example of the hour-glass contraction of that organ,—its mucous membrane as well as that of the intestines quite healthy. The mesenteric glands were rather enlarged and turgid with venous blood.

The result of Pneumonia when suppuration or gangrene has once taken place, must be most precarious, and will depend very much on the extent of the mischief which the lungs have sustained. There can be no doubt that the simple abscess of the lung occasionally does well, when there is no tendency to form tubercles, and when sufficient power remains in the vessels to throw out fibrin and thus to insulate the disease and prevent its extending: to support the system without stimulating and to withdraw all sources of irritation are to be the great objects of our attention. Even in those cases, where the factor of the breath and the collapse lead us to fear a state of gangrenous suppuration, I think we have reason, from the appearances in the right lung of WATSON (Case LI.), where a portion of the abscess had become clean, to infer that cure is not impossible; but it is plain that our only hope must be placed in the free administration of support, and the cautious use of stimulants.

CASES

ILLUSTRATIVE OF SOME OF THE MORBID APPEARANCES DISCOVERED IN
PHTHISIS PULMONALIS.

THE history of Phthisis Pulmonalis is unfortunately so familiar to every practitioner, that it is unnecessary to enter into a detailed narrative of symptoms. I shall satisfy myself with little more than a statement of the morbid appearances presented, when, as is most frequent, the disease has terminated fatally; and for this purpose the cases will be so selected as to comprise the greater part of the organic changes which usually take place. These changes will be found chiefly to consist in the disorganization of the lungs, in the ulceration of the larynx, in the obstruction of the absorbent glands, and in the irritation or ulceration of the mucous lining of the intestines. Of these it may be said that the first only is essential to the disease; but all the others are found very frequently to exist, aggravating the symptoms and hastening the fatal termination. The disorganization of the lungs, which more particularly belongs to phthisis, is generally considered to be peculiar to the disease, and to differ specifically from the disorganization which depends on simple inflammation under any of its forms: it is however not to be doubted, that ordinary inflammation has frequently been the immediate forerunner and even the exciting cause of phthisis, giving occasion to that morbid action which shows itself by the formation of the genuine phthisical tubercle. It will be seen in the following Cases, that the tubercular deposit assumes two totally different forms; so that were it not for the fact of their occurring so frequently together in the same individual, in the same lung, and even in the same lobe of that lung, we should scarcely be authorized in considering them the result of the same, or even of analogous morbid actions. It will be seen that sometimes a portion of the lung, varying from the size of a nutmeg to the greater part of a whole lobe, has become of a dense semicartilaginous consistence, has assumed a permanent blueish gray colour, and is nearly translucent; that this has gone on gradually to become yellow in spots, to soften, and to form abscesses of a sluggish character, finding their way in time to some unobstructed bronchus, and discharging themselves by expectoration. The cavity becomes larger and larger by the suppuration of the internal surface, which appears like a secretion from a

vascular tissue, with which it is surrounded ; this however is not exactly the case, as there is reason to think that the cavity actually enlarges, and therefore that the internal surface must waste, and be renewed by a fresh membrane forming beneath, (Plate IX. and X.). In other parts of the same lung a very different process has often been going on ; and a number of minute bodies, not larger than the smallest shot, have been deposited more or less thickly throughout the substance. The lung may scarcely be altered in its appearance ; but on pressing it, hard unyielding bodies are distinctly felt ; these in a short time enlarge, and when still not larger than small peas, begin to suppurate at the centre ; or more frequently these small miliary tubercles join in clusters, either forming masses of themselves, or inclosing a piece of the lung, which becomes hard and blue and semi-transparent, and either runs into suppuration together with the small tubercles ; or, if no suppuration takes place towards the centre, becomes completely separated, and forms a slough in the midst of the cavity, which is surrounded by the tubercular matter in the form of a cyst. These are the two extreme points of the processes which take place in genuine tubercular phthisis ; and they admit of many modifications, more particularly when combined with the effusion of fibrin which attends simple inflammation.

Another of the morbid changes frequently attending phthisis is the ulceration which takes place about the larynx and the trachea. It is often very difficult to say whether this or the affection of the lung has first existed ; there is no doubt that sometimes the one and sometimes the other precedes. The occurrence of this ulceration is generally betrayed by the hoarseness of the voice and the clanging sound which accompanies the cough ; the most usual seat of the ulceration is immediately below the *rima glottidis*, where it begins with one or two very small round ulcers, which soon extend and become irregular in form, assuming the appearance of superficial abrasion : the situation and extent, however, vary a little ; sometimes the epiglottis itself is ulcerated, and occasionally small independent ulcers take place in the mucous membrane of the trachea, two or three inches below the cartilages of the larynx. Where the ulceration of the larynx has taken place early, it has not unfrequently drawn the attention both of the patient and the practitioner from the more important seat of disease ; for the irritation and uneasiness occasioned by this local disease in the orifice of the air-passage, is much more forced upon

the attention, than the inconvenience and dyspnœa, seldom amounting to pain, which accompany the tubercular deposit in the lungs.

A third set of morbid appearances in phthisis are those which arise from the obstruction of the absorbent glands, more particularly those of the bronchial passages and of the mesentery. In scrophulous subjects we often find the glandular system very generally disordered in connection with phthisis; but in other cases, where little or no glandular disease is discovered in parts which are open to observation, the glands of the mesentery are still enlarged and hardened, or have gone into a state of suppuration. This disease of the mesenteric glands appears frequently to be the immediate consequence of the irritation taking place on the mucous coat of the intestines; which often exists from an early period of the complaint, showing itself at first by irregular action of the bowels, by occasional diarrhœa, by the unnatural cleanness of the tongue, its glossy appearance, or the occurrence of aphthæ; and in the latter stages by the uncontrollable diarrhœa which hastens the conclusion of the disease. It will generally be found that the enlargement of the mesenteric glands in any one part maintains a certain proportion to the degree of irritation in the mucous membrane of the intestine immediately opposite; and that when ulceration has actually taken place, the mesenteric glands are largest and most inclined to suppurate in the immediate neighbourhood of the ulcers. When the glands of the mesentery become obstructed, a fresh cause of that rapid emaciation which attends phthisis unfolds itself, and the careful examination of the part after death often explains that cause in a most striking manner. It appears that the condensed structure of the gland actually presents a mechanical obstruction to the fluid which has been separated for the nourishment of the body; and I have found the lacteals gorged with chyle, as by the most successful injection. This is seldom seen to any great extent; but very frequently occurs partially, so that a few branches of the lacteals are beautifully traced, filled with a fluid which separates, throwing up a cream-like substance to the top, while its more watery portions remain in the lower part of the fine tubes: and by carefully following these tubes, you may sometimes trace two or three of their convolutions in the substance of the gland to which they run (Plate XII. Fig. 2.). At one time I was inclined to think that the lacteals were seldom found to be obstructed, except when they originated from an ulcerated surface in the intestines, but this is not the case; and though, owing to the greater irritation which

is set up in these parts, the glands will generally be more diseased and hence less pervious, and therefore will be most likely to give occasion to the filling of the lacteals; yet I have sometimes traced the gorged lacteal most distinctly, from a part of the mucous membrane free from ulceration.

The bronchial glands also, as I have before remarked, are subject to morbid affections in phthisical subjects. They occasionally become remarkably dark in their colour, firm in their consistence, and enlarged to a very unusual degree; sometimes though rarely going into suppuration, but much more frequently becoming the seat of an earthy deposit towards their centre.

The last seat of morbid change of which I shall speak, is the mucous membrane of the intestines. The affection of this membrane is one of the most important features in a majority of the cases of phthisis: it shows itself by unequivocal symptoms during life, and is traced in two different forms after death; sometimes giving proof of a diffused irritation along the whole membrane from the pylorus to the termination of the rectum, evinced by increased vascularity or by the appearance of innumerable minute black specks, which give a general gray colour to all the parts where they are most frequent (Plate XII. Fig. 2.), and sometimes affording evidence of a more severe affection, by the formation of numerous ulcers, which are found sometimes in the upper part of the duodenum, frequently dispersed along the whole course of the small intestines, but usually most abundant about the valve and through the whole extent of the colon. These ulcers, as found in the small intestines, are usually in the first place very small and circular, and appear to originate from round opake white bodies about the size of half a sweet-pea; but whether these are altogether morbid tubercular deposits, or are only enlarged mucous glands, it is no easy matter to decide: certain it is, that they are most generally placed in that part of the circumference of the intestine which is most distant from the mesentery, and where the mucous follicular structure is most developed. These ulcers often extend to the size of a shilling, and sometimes still further, in a lengthened form. It is remarkable that the edges are often thickened by an opake white matter deposited beneath the membrane and drawing it into a puckered form; and sometimes this deposit is seen in the middle of the ulcer, like a granulation on its surface (Plate XI. Fig. 2., and Plate XII. Fig. 2.). The ulceration of the large intestines is usually the most remarkable, and it varies a good deal in its character; in general it is by far the

most conspicuous about the cæcum and the valve of the colon (Plate XI. Fig. 1., Plate XII. Fig. 1.), where it appears to commence much as in the small intestines, by opaque deposits; but these are from the beginning more numerous, and it goes on to a much greater extent, sometimes involving the cæcum in one continued ulcer; this occasionally, though rarely, affecting the lining membrane of the vermiform process itself (Plate XII. Fig. 1.). In the other parts of the colon, as along its arch, the ulceration usually assumes a more regular and uniform character than in the cæcum; for we generally find a series of oval ulcers with elevated edges, more or less closely distributed along the sides of the longitudinal bands, and apparently determined in the direction which they take, by the transverse folds of the mucous membrane (Plate XII. Fig. 3.). These ulcers frequently continue to the sigmoid flexure, and occasionally even to the rectum. It appears to me that they sometimes undergo a process of healing, their tubercular edges softening down, and their flattened edges adhering to the parts which have been denuded by the ulceration (Plate XI. Fig. 1.); but this is not a frequent occurrence, because the more usual course of phthisis is to go on from worse to worse till it terminates in death; and little attempt has usually been made by practitioners to change the condition of the intestines, while they have felt that the more urgent disease was in another part. The first case, however, which I shall now relate, to illustrate what I have been saying, sufficiently shows that when the disorder of the mucous membrane of the bowels is a prominent feature in the disease, much relief and comfort at least may be administered by attending to the actions of the intestines.

CASE LIII.

EDWARD PHALIN, æt. 54, a tall man of a sandy complexion, who had passed his life at sea, was admitted under my care into Guy's Hospital, December 14th, 1825. He was labouring under symptoms of confirmed phthisis, although the disordered state of his bowels was that part of his complaint to which he chiefly directed his own attention. He stated, that for several weeks he had been much purged, and had frequently passed a considerable quantity of blood in his stools. His voice was hoarse, and was often only to be heard as a whisper; he had some difficulty in swallowing his saliva, and complained of slight tenderness when pressure was made on the larynx externally. His cough was frequent, and the expectoration very puriform, though never tinged with blood. Pulse 120, weak and irritable.—My chief object was to correct the diseased

condition of the bowels; and this I attempted by the use of Ipecacuanha, of which he took two grains three times a day, with the effect of gradually diminishing the purging, and rendering the stools natural in appearance, though they remained to the last somewhat relaxed. The cough and expectoration increased, and towards the close of life considerable œdema occurred about his ankles. His strength gradually diminished; and on the 14th of January he died in so tranquil a manner that he was supposed to be asleep.

SECTIO CADAVERIS.—January 14th.

General appearance somewhat œdematous; some swelling of the legs more particularly. On raising the sternum the cellular membrane in the anterior mediastinum looked in parts gelatinous, from the effusion of a straw-coloured serum into the cells. The lungs adhered closely to the ribs over their whole extent; and in attempting to separate the right lung, parts tore away, leaving extensive abscesses open in the superior part. Very large cavities were found at the upper angle of both the right and left lung, completely lined by semi-cartilaginous cysts, irregular in form, and in appearance warty over their whole internal surface: these cavities were traversed by bands of the substance of the lung hardened by tubercular deposit, into which I could sometimes trace vessels and bronchial tubes, but they were soon lost and evidently obliterated. The cavities were nearly empty; the pus which they had contained having passed off by large branches of the bronchi, opening into them. I more particularly examined the state of the left lung, from which I had some drawings executed. The bronchi were thickened, and their lining membrane injected with blood: the membrane was red at first, but became much more so on exposure to the atmosphere; so that the bronchi were easily traced, of the brightest vermilion colour, contrasted with the blue and gray colour of the lung through which they ramified. (Plate X.) The red and thickened mucous membrane was seen coming to the orifices of the bronchi, opening into the large cyst of the tubercular abscess in the apex, and then forming a kind of lip, and apparently dipping down underneath its warty lining, where it was obvious, from examining the cut edges of the cyst, that it continued for a considerable extent to form a second or external lining to the cavity. There were several smaller cavities in the superior lobe, resembling the large one; they varied from the size of a pea to that of a small walnut: some of them were quite full of yellow fluid pus, some were empty, having in this case communication with the bronchi. None of the smaller

cavities appeared to be surrounded by miliary tubercles, but the whole of that lobe was composed of a condensed blue gray substance, in parts semi-transparent, cutting firm and even, so that no part appeared to be pervious to the air (Plate IX.). The condition of the inferior lobe was very different; on dividing it with the scalpel, and leaving the cut surface exposed for some minutes to the atmosphere, a considerable part became red, and this part was obviously spongy, approaching to the natural texture of the lung: throughout the whole of this, small hard miliary tubercles of the size of small shot were sprinkled; and these, more particularly in the parts of the lower lobe which approached the upper, were collected together in clusters or masses, forming a body like an irregular small walnut imbedded in the spongy texture. The section of such an included mass showed that its circumference consisted of small miliary tubercles of a light yellowish colour, and the centre of a gray semi-pellucid matter, cutting like soft cartilage; in the midst of which, however, were occasionally seen one or two of the yellow miliary tubercles. None of these masses were excavated, but they were in somewhat different stages of progress; some having the miliary tubercles in a softer state and of a more yellow colour than others; and in one the centre of each small tubercle was become soft, so that it appeared as if in a short time the central gray mass would have become insulated by the suppuration of the circumference. The epiglottis was partly eaten away by an ulcer which was now healed; the cicatrix had contracted, and it stood so stiff as very imperfectly to close the opening into the trachea; it was also in parts ossified. The opening was by no means of its natural size, owing to the thickening which had taken place round its margin. The cartilages of the larynx were in part ossified, and the whole mucous membrane of the trachea was red. The pericardium contained a few drachms of fluid. The heart presented a very peculiar appearance: it seemed as if covered with a bag of yellow jelly, thicker in some parts than others; and on the front of the heart was situated a white patch of the size of a half-crown piece, completely raised from the heart by the effusion, looking like a folded piece of silver-paper. On opening the cavity of the abdomen the intestines were in various parts hung with the same gelatinous substance seen about the heart; this also had taken place in the mesentery. The mesenteric glands were enlarged, of the size of beans: a small quantity of serum in the cavity. The intestines were rather opaque, not vascular nor thickened. I expected ulceration, but the external

appearance scarcely indicated any. I found one ulcer in the small intestines ; it appeared as if partly healed (Plate IX. Fig. 2.). The ilium near the cæcum had its mucous membrane a good deal irritated and thickened, perhaps abraded ; but the mucous membrane of the colon near the valve of the cæcum was in a most advanced state of worm-eaten ulceration, and the whole colon in the same way ; the ulcers more defined, from the size of a pea to that of a shilling, but oval or lengthened in the transverse direction of the intestines, and the elevated ridges of the mucous membrane seemed eaten off by the ulcers. Liver, pancreas, stomach, and kidneys, healthy.

In this case it appeared to me, both from the symptoms and from the examination after death, that the most important relief had been given to a prominent part of the disease, that situated in the lining membrane of the intestines ; and although the extensive and long-confirmed pulmonary disease forbade the hope of permanent relief, yet essential comfort was administered, and the progress of the disease was deprived of a part at least of its threatened terrors. Not only had the irritation subsided, but the ulcers in the ilium had begun to contract (Plate XI. Fig. 2.) ; and those in the cæcum had lost in a great degree their irritable and thickened edges. (Plate XI. Fig. 1.)

CASE LIV.

JAMES HAWKES, æt. 42, a gardener, of light sandy complexion, was admitted under my care, December 6th, 1826. He ascribed his present disease to frequent exposure to wet and cold. He had suffered from a constant cough for nine months, and had fallen away very much. His expectoration was considerable, decidedly puriform. Pulse 96 : some exacerbation of fever towards evening : the existence of a cavity in the right lung was inferred from examination by the stethoscope. About a month after his admission he expectorated a large quantity of blood, and often complained of pain as well as constriction across the chest, and of an unpleasant itching pain on the right side of the chest more particularly. He was attacked on the 5th of March with a regular tertian intermittent ; and it appeared that about four months before his admission into the Hospital, he had suffered from the same complaint. The Sulphate of Quina quickly put a stop to the paroxysms ; but the disease returned again, and I again cured it by the same means. Several times I was obliged to have recourse to bleeding, from the recurrence of pleuritic inflammation. This gave him so much temporary relief, that he was anxious on all occasions to lose blood. In general the bowels were confined, though sometimes they were otherwise for a day or two. Towards the beginning of

May his debility became extreme, and general anasarca took place.—He died on the 15th of that month.

SECTIO CADAVERIS.

Considerable emaciation and general anasarca over the whole body. A large quantity of limpid serum was effused into the left cavity of the chest. The left lung partially adhering, and its lower lobe covered with soft yellow fibrin, in the upper part forming a thin rough honeycomb pellicle, but on the lower edge deposited to the thickness of nearly an inch. The lung in every part contained miliary tubercles, distributed through it but not in great abundance; in the apex were two or three parts much consolidated, one containing gritty calcareous matter. The right lung adhered by very extensive close and firm adhesions, so that it was necessary to dissect it away with much trouble from the ribs; the lung was there found to be invested with a band of cartilaginous deposit which nearly surrounded it about its middle; and in one part this was nearly the third of an inch in thickness. The upper lobe contained a large irregular cavity intersected by bands, and lined with a membrane formed apparently by condensation of the surrounding pulmonary structure, but so hard as to cut with the resistance of thin cartilage. This cavity was quite empty, and appeared in a singularly inactive state, almost as if it had ceased to give origin to pus; the rest of the lobe was completely consolidated by tubercular infiltration of a gray colour, and approached in appearance to a section of amygdaloidal greenstone. The lower part of the lung contained many miliary tubercles, some solitary, but chiefly collected in clusters about the size of a nutmeg. The heart rather small, but otherwise very healthy. In the abdomen several pints of clear straw-coloured serum were effused. The liver was tolerably healthy. The spleen was covered with an irregular thin opaque coating, and about the centre of its convex side had a more dense yellow patch, which on examination proved to partake of the character of fat deposited in cellular membrane; the organ itself not unhealthy. The intestines externally appeared healthy, but on opening them it was found that the mucous membrane had suffered in places, collections of cheesy matter having taken place apparently in the mucous follicles, which had then gone on to suppurate and form ulcers. The part in which alone this had gone to any extent was in the ilium, very near the valve of the colon, where two large irregular ulcers of a sluggish

and tuberculated appearance existed, and the tubercular character in this case showed itself externally in the roughness or unevenness communicated to the peritoneal covering. In several spots of the small intestines single small tubercular ulcerations not larger than a split-pea were found, but no other considerable ulceration. The colon was ulcerated slightly in one or two places only, the caput cæcum was quite free from ulceration, but was covered with that gray speckled appearance which seems the result of carbonaceous deposit in the mucous membrane. The mesenteric glands were enlarged to the size of filberts; and I here had an opportunity of finding decidedly that their enlargement does not necessarily depend on ulceration of the mucous membrane, though so frequently connected with it; for in the mesentery opposite the upper part of the ilium a gland was much enlarged, and the lacteal vessels running towards it were loaded with chyle obstructed in its passage, yet no ulceration could be found in the neighbouring part of the mucous membrane.

In this case we chiefly observe the very slow progress of the disease, and its comparatively chronic form. Although the cough and expectoration had existed for nine months when he was admitted, and the symptoms were then quite unequivocal, he lived five months after that time. The state of the lungs very satisfactorily accounted for this character of disease: the large cavity, which alone seemed capable of giving out the abundant puriform secretion, was not only empty, but its parietes, instead of being covered with a flocculent puriform substance, looked clean and shining, as if the cavity had been washed; and I should have little doubt that had this been the only disease, life might have been protracted to a much longer period, and probably the disease have been ultimately cured. The state of the upper part of the left lobe led us indeed to believe that a cavity had previously existed there, and had contracted and healed. The other parts of the lungs, however, became gradually too much diseased to allow of the continuance of life; and the frequent recurrence of pleuritic inflammation which was traced so manifestly and in so striking a manner on examination, rendered it infinitely more difficult to induce that state of rest, and to give that degree of tone to the lungs, which may perhaps in some cases like this, allow the phthisical disease quietly to subside. The striking difference between this case and the last, with regard to the state of the bowels, is very sufficiently accounted for, from the comparative freedom from ulceration in the cæcum and colon in the present instance.

CASE LV.

L. F. was admitted into the Hospital with symptoms of confirmed phthisis. Great emaciation, rapid pulse; puriform expectoration, which early in the disease had been mixed with blood; and colliquative perspiration. During the time he was in the Hospital, he always stated that his bowels were free, but never once made such complaint as to call particular attention to their condition.

SECTIO CADAVERIS.—March 7th, 1826.

The lungs adhered very closely in every part to the pleura costalis, and were with much difficulty detached. The upper lobe of the right lung poured forth a large quantity of thick pus, as it was torn from its adhesions. Both lungs were full of tubercles in a state of suppuration, so that only very small parts, chiefly in the lower lobes, were pervious to the air. Few of the cavities were very large: they varied from the size of a walnut to that of a pea; either passed into a state of complete suppuration, or composed of soft curdlike matter. The abscesses were not in this case formed from clusters of miliary tubercles; but single small tubercles had enlarged and softened, and a large deposit of the semitransparent gray matter had taken place around. The suppurating cavities were lined with curdlike matter attached to the membrane, forming the parietes of the cavity, and this membrane was by no means so tuberculous on its surface as it often is, particularly when clusters of miliary tubercles have formed the external boundary of the cyst. The heart was healthy, and a few drachms of serum in the pericardium. The liver of good colour and consistence. The spleen was soft and light coloured; a large patch of cartilage was deposited on its surface. In the cavity of the abdomen about a pint of serum was effused. The surface of the stomach did not look healthy, and had upon it many red points, as if it had been throwing out blood. In the jejunum and ilium some single ulcers were scattered along the mucous membrane. The valvulæ conniventes appeared as if eaten away, and thickened where the ulcer cut their edges. The termination of the ilium at the valve of the colon was particularly diseased, with many deposits, about the size of a small pea, of yellow matter beneath the mucous membrane, which in one or two places had gone into ulceration. The whole surface was much inflamed. Opposite to the ulcers of the small intestines the mesenteric glands were much enlarged and hardened, and the peritoneum covering the intestines where the ulcers were, seemed in some parts to have partaken of the action

going on in the mucous membrane, being vascular, slightly discoloured, and thickened. The caput cæcum coli and the vermiform process presented one mass of ulceration on their internal surface, so that large spreading ulcers of irregular form and rough granulated appearance occupied the greater part of the arch of the colon and the sigmoid flexure, (Plate XII. Fig. 1.). The glands of the mesocolon were enlarged and hardened.

The circumstance which is most remarkable in this case is the disease of the vermiform process, and the extent to which the intestines were affected with so little apparent distress to the patient.

CASE LVI.

WILLIAM CARTER, a brass-founder, a middle-aged man with a narrow chest, was admitted under my care into Guy's Hospital, November 2nd, 1826. About five weeks before his admission,—having been previously as he believed in perfect health,—he was suddenly seized with sickness, vomiting, and purging, which continued for two or three days: from that time he remained ill, constantly suffering from cough, with a frequent lax state of the bowels and pains in his limbs. His emaciation when admitted was very great. His voice weak and hoarse. Tongue pale. Pulse 110. Respiration 32. Cough frequent. He had two fistulous openings in the rectum. He became weaker from day to day; his cough increased, but he had scarcely the strength to expectorate. His bowels were always irregular, and he passed five or six yellow watery dejections each day; as he grew weaker, he almost refused both medicine and nourishment, but as this appeared to arise chiefly from his feeling of lassitude, I had him carefully supplied with the latter. Aphthous ulcers formed on the tonsils; the teeth became covered with sordes, the tongue dry; and for the last day or two he seemed to be dying.

SECTIO CADAVERIS.—December 5th, 1825.

Extreme emaciation of the whole body. His chest was narrow, and yielded a very imperfect sound on percussion. Nearly complete adhesion was found throughout the whole pleura on both sides. The upper lobe of the right lung was filled with suppurating cavities, of which one or two about the size of a pigeon's egg, seemed to have discharged their contents through the bronchi; one of them had a columnar band passing through it; other parts were less advanced in suppuration, some with small cavities of the size of a pea, full of pus, others with none. The other

lobes were interspersed more or less thickly with the same appearance, but much less advanced; the lower lobe admitted a good quantity of air, and its edges were natural. The early progress of the suppurating tubercles was very plainly observed in some parts of this lung; a certain small mass composed of hard gray matter forming an irregular body round which suppuration was beginning in several points, which already looked yellow. Many of these, commencing in parts of the lungs which yielded crepitus, gave on pressure the feel of hard imbedded substances. The left lung differed very little from the right, in the character and extent of disease with which it was pervaded. The heart was healthy. The liver was healthy in appearance, but a little flaccid. On one point of the convex surface of the right lobe old adhesion was formed with the diaphragm; and there was the appearance of a scar on the surface of the liver, with a dark mark surrounding it, as if some black substance were beneath. On being cut, this was found to be a black or blood-like mass of the same firmness as the surrounding liver, but looking like extravasated blood; it was a perfectly defined mass not separated from the surrounding substance. The gall-bladder was rather large, and full of light-coloured watery bile. The stomach appeared healthy; a few vessels were distributed in star-like forms over its mucous surface. The small intestines were the seat of several small ulcers just visible through the peritoneal coat, which looked thick at that part; and when the intestine was laid open, they proved to be little eroding ulcers, each placed on the edge of one of the valvulæ conniventes. Of these I minutely examined only four, but there were many others. The glands of the mesentery were enlarged, particularly opposite to each ulcer; they were white, and of the size of large peas or small marbles; and at the root of the mesentery was situated a hard lump of diseased glands. The most beautiful display of injected absorbents presented itself on the mesentery; they were seen running from the intestines to the first set of glands, and afterwards either passing out through their substance, or passing over them and running to the root of the mesentery. The absorbents being quite white, from the chyle they contained, were seen most distinctly as they crossed the mesentery, which was quite free from fat, and as they crossed branches of the mesenteric vessels which by their colour afforded them a good relief.

The chief circumstance to be observed in this case, was the rapid ema-

ciation, although the lungs were not so much diseased as we often find; and this was certainly in some degree accounted for by the state of the lacteals. It was quite obvious that the diseased condition of the glands, more particularly at the base of the mesentery, formed the obstructing cause which prevented the nourishment in a great degree from supplying the waste of the body.

CASE LVII.

WILLIAM MIDWINTER, æt. 34, was admitted into Guy's Hospital under my care, October 27th, 1826. He had been suffering from a cough for about four months, in consequence of a neglected cold; during the last month he had been under medical treatment, without deriving any relief. His cough had gone on increasing, but was chiefly troublesome when lying in bed; and there was a remarkable hoarseness in his voice. He found some difficulty of deglutition, and experienced a pain from his throat towards his ears when he swallowed. His expectoration, though considerable, had never been tinged with blood. On examination, it was found that the posterior fauces and the right tonsil were slightly ulcerated. Pulse 140. Respiration about 30. Countenance sallow; tongue red at the point; frequent night perspirations. He never experienced more than temporary relief to his symptoms; his voice was always hoarse; his pulse never below 120; his expectoration became occasionally tinged with blood. He died about 16 days after admission, experiencing for a day or two before death very peculiar difficulty of breathing with a sense of choking, which on two occasions induced a state approaching to asphyxia.

SECTIO CADAVERIS.

By no means emaciated. Larynx affected with two very confirmed ulcers just below the rima glottidis on each side, of the size of a shilling: a small ulcer also on the front part of the thyroid cartilage. The whole bronchial lining was vascular, and loaded with a peculiar tough gelatinous mucus. Some of the bronchi were traced into suppurating tubercles, and by them the pus had been evacuated. The upper lobe of each lung was thickly filled with miliary tubercles collected into large clusters, with hard semi-transparent central masses. A few tubercular abscesses were formed in each superior lobe, about the size of small nutmegs. The greater part of the lungs, more particularly the lower lobes, although they contained some miliary deposits, were freely pervious to the air.

In this case it is very obvious that the disease of the larynx had considerable effect in modifying the symptoms of phthisis, and that the irritated

state of the bronchi, combined with the ulceration of the larynx, assisted materially in shortening the life of the patient; for the disease of the lungs was by no means so extensive, as of itself necessarily to have produced death.

CASE LVIII.

X. Y., æt. 30, driver of a fire-engine, and habitually rather a hard drinker, had enjoyed good health till about a year before his death; but from that time he had been falling off. As late as the end of December 1824, he was in tolerable spirits, but was hoarse, and had a cough: for the last four months all his symptoms have been rapidly increasing; cough, hectic, and every circumstance which strongly and plainly marked the disease as phthisis. It is right to observe two particular symptoms which occurred;—he frequently coughed up pieces of bony matter, and—he latterly had constant diarrhœa. The pieces of bone were irregularly formed, but not apparently broken, much resembling small pieces of coral rubbed on the sea-shore. He died June 2nd, 1825. I was present at the examination, with my friend Dr. Benjamin Babington, who had frequently seen the patient during life: and the following is a history of the appearances, including a large proportion of those which usually occur in phthisis.

SECTIO CADAVERIS.—June 3rd, 1825.

The whole substance of both lungs was very unhealthy, and none but the lower lobe on the left side preserved at all the natural crepitus; probably two-thirds of the lung on that side admitted air. All the other parts of the lungs were filled with tubercles in their various states; some were small deposits not larger than peas; others irregular masses as large as walnuts, soft, and generally towards the centre containing a blackish matter; others had been discharged, leaving irregular cavities, the parietes of which felt semi-cartilaginous, and in the cut edge showed something not unlike a membrane lining the cavities. The lung was divided in a great many directions with a view of finding the bony matter, but we did not succeed. The bronchial glands were much enlarged, black, but filled in the centre with the bony deposit, of different degrees of hardness: we did not, however, find any ulcerations or communication by which these glands could be supposed to have furnished the bony matter expectorated. Although the lungs adhered to the ribs in many parts, there was a considerable quantity of fluid effused. The upper part of the lung, particularly on the right side, adhered so firmly, that the lung tore away, leaving a large piece of the tuberculated mass behind. One or two small patches of white adventitious

membrane were found on the pericardium covering the ventricles of the heart; and what is rather less usual, there were some small flakes of the same kind on the right auricle. The liver and spleen healthy. The kidneys large, but healthy. The stomach and pancreas healthy. The small intestines were ulcerated, from a few inches below the termination of the duodenum to the caput cæcum coli. Thirty distinct ulcers were distributed at pretty regular distances, and most of them occupying that part of the calibre of the intestines which is furthest from its junction with the mesentery. These were very easily discoverable before the intestine was opened, by the appearance of the peritoneal coat at the ulcerated parts. The peritoneum was there corrugated or puckered, of a purplish colour, and studded with flattish white miliary bodies, either beneath or in the substance of the peritoneal coat; and a number of small vessels were seen ramifying about this congeries of little bodies. On opening the intestine, we found the ulceration of the mucous coat complete; it appeared first to attack the edge of one of the valvulæ conniventes, and then to proceed and to involve several, forming a rather hard and elevated edge, very irregular; while the bottom of the ulcer was uneven and granulated. The mesenteric glands formed a mass of diseased structure at the base of the mesentery; and in general, opposite to the ulcers were seen two or three glands about the size of large peas, lying between the great mass of enlarged glands and the intestine. Many of the glands were of the size of a walnut, hard, white or yellow, and in general red towards the centre; none of them contained bony deposits.

CASE LIX.

JAMES HARRISON, æt. 40, was admitted into Guy's Hospital, under my care, June 13th, 1827. He stated that he had been ill for five or six months, but had kept to his work as a smith till the last week; that he had previously been a very strong man, and that his present illness commenced like a cold, with severe cough. He had very little pain, but occasionally some in the left side near the situation of the heart. He was emaciated to the utmost, and could scarcely speak in an audible voice. He had a constant cough, and his breath was most dreadfully fetid. Bowels somewhat purged for the last fortnight, without any blood. Tongue dry and naked. No perspirations. An extensive ulcer on his leg. In the perfectly hopeless state in which he was admitted, little was attempted but to nourish him, and by Angustura, the Aromatic Confection, and Ipecacuanha, to improve the state of his bowels. This succeeded to a considerable extent;—but he died in two days.

SECTIO CADAVERIS.—June 16th, 1827.

The right lung was free from adhesion, and distended with air rather more than natural. On the superior lobe at the apex was the appearance of a cicatrix, which on being cut proved very superficial; but there was beneath, a large mass of miliary tubercles with gray tubercular matter, and in its centre a cavity of the size of a pigeon's egg, lined with firm parietes and containing some well-formed yellow pus, though some had escaped by the bronchial tubes. Miliary tubercles were deposited more or less generally through the whole lung, but not so as greatly to impede respiration; and towards the basis of the lung they were few in number, and quite in an incipient state. The left lung adhered very generally, and was throughout in a state of the most complete disorganization. The superior lobe more particularly appeared eaten-out into numerous cavities which ran into each other, thus leaving bands and septa amidst the most corrupt and ill-conditioned pus; the cavities were lined with a membranous substance, and the small intervening spaces were filled with miliary tubercles. The other lobes were in the same state, rather less advanced, and afforded an opportunity of seeing a stage in the progress of the mischief not very often observed: the miliary tubercles had been deposited, as is very common, in clusters around a mass of tubercular matter; and having all gone into a state of rapid suppuration and been thrown off as pus, left the central mass quite insulated like a kernel about the size of a nutmeg,—this going into a state of slough, assisted in forming the ill-conditioned pus which pervaded every part of the lung: in some instances this process had not gone quite so far, but the central mass was still connected partially with the surrounding lung. The epiglottis was somewhat thickened, and the mucous membrane covering the sides of the rima glottidis was thickened, and showed marks of considerable irritation: the whole internal lining of the trachea was inflamed; and about an inch above the bifurcation two small round ulcers the sixth of an inch in diameter were seen. The heart healthy. The liver, spleen and pancreas, tolerably healthy. The whole tract of the intestines had undergone considerable irritation: there were no ulcerations; but several parts of the small intestines were rendered of a dark gray colour by numerous black spots of carbonaceous matter (as in Plate XII. Fig. 2.); this was strongly marked in the duodenum, and in various parts through the small intestines. The colon

also bore marks of irritation. The kidneys presented a specimen of very decided though not very advanced granular deposit, such as I have described in the case of RICHARDSON, (Case VI. page 19.); of the same kind, though much less advanced, than in the kidney represented in Plate I. As I had made no observation on the state of this patient's urine during life, I was very anxious to know what had been its condition, and fortunately found the bladder to contain nearly an ounce. This was carefully drawn through the natural passage, and received into a clean glass: it was of a light straw colour, and coagulated in a most marked manner by heat, forming a thick white fluid, from which the coagulum had little or no tendency to separate.

In this case we have some interesting circumstances to observe. We see the most advanced stage of such collections of miliary tubercles as are described in the case of CARTER, producing a species of gangrene by cutting off the vascular communication of a part of the diseased lung, and giving rise to the same foetid breath and expectoration which mark the gangrene and the gangrenous suppuration subsequent to true pneumonia. This process we likewise find connected with the greatest exhaustion; and it is probable, from the fact of this patient having worked within a week of his admission, that the debility had been rather suddenly induced. But to me one of the most interesting circumstances was the unsought and therefore very satisfactory confirmation which the state of the kidneys afforded of the opinions I have advanced in the former part of this volume, respecting the immediate connection of coagulable urine with obvious and ascertainable disease of the secreting organ.

CASE LX.

I was present at the examination of MICHAEL DOLON, aged 22, who had died June 20th, 1812, after labouring under phthisis for above a year; the symptoms which chiefly attracted attention latterly being the constant diarrhoea.

SECTIO CADAVERIS.

The right lung adhered very firmly to the pleura of the ribs, particularly on the upper part, where it was almost inseparable. The whole substance of this lung was tuberculated, the tubercles passing into a state of sup-

puration, which had in some parts gone on extensively ; several small pieces of spongy bone were deposited in its substance. The left lung was but little diseased. The liver was not perfectly natural, assuming a somewhat granulated structure. There was no organic change in the duodenum, nor was there any morbid appearance, except some inflammatory blush in the first two feet of the jejunum : at this place an ulcer was situated, and another about six inches from it ; and so on, the ulcers becoming at one time more frequent, and then less so, till within two feet of the valve of the colon, when they ceased ; the whole number counted being fifteen. The arch of the colon was studded with ulcers, as was the rectum also ; a very large spreading ulcer, not less than two or three inches in length, occupying the lower part of the rectum almost to its termination. The ulcers in the small intestines were perceived immediately on opening the abdomen, not by any external ulceration, but because the space occupied by the ulcer had a lighter colour and more opaque appearance than the rest of the intestine, which was rather red ; these marks appeared like cicatrices with vessels shooting about their edges, and a little oblong cluster of vessels generally occupying their centres. On everting the intestine, it was found that the ulcers were for the most part about the size of a shilling, had completely destroyed the mucous coat, eating away the valvulæ conniventes, and were surrounded by very thickened edges, highly inflamed and apparently puckered ; these ulcers were almost universally placed in that part of the circumference of the intestine which is furthest from the mesentery. In one case I observed in the ilium a collection of puriform matter beneath the mucous membrane, which appeared the commencement of an ulcer. The ulcers on the colon and rectum were not observable till the intestine was everted ; they were in general less defined, of larger extent and more superficial, than the others. The glands of the mesentery were all much enlarged.

CASE LXI.

JAMES NORTON, æt. 29, who had been a servant at a public-house, was admitted into the Clinical ward, January 18th, 1827. While walking about seven months before, without any particular exertion he spit up nearly half a pint of blood ; and this recurred several times at intervals of three or four days. About three weeks afterwards cough came on, and the expectoration (which was mucus mixed with blood in small

quantities) continued to the time of his admission, when he was much reduced; his breathing rapid and difficult; and his pulse seldom under 120. His expectoration was decidedly puriform; his perspiration often profuse; his bowels were generally more open than natural, passing about two stools in the day; and although within a day or two of his death they became relaxed, yet it was without any pain.—He gradually sunk and died on the 14th of February.

SECTIO CADAVERIS.—Feb. 15th, 1827.

Complexion and hair inclined to be sandy. Body greatly emaciated. The cellular membrane of the abdomen almost devoid of every vestige of fatty matter. On raising the sternum the glands along the inside were enlarged, white, solid and cheesy, as were some which rested on the diaphragm in the anterior mediastinum. The left lung adhered to the ribs over a considerable extent; the greater part of the upper lobe was excavated into one large cavity lined by a rough tuberculous membrane, and traversed by bands of hardened tuberculous matter. The remaining part of that lobe was a mass of miliary tubercles formed into clusters. The inferior lobe of this lung was nearly in the same state, though less advanced. The right lung had its upper lobe in precisely the same condition, except that the cavities were less, and the general state of solidity more complete. The lower lobes were more pervious to air, and the line of demarcation formed by the separation of the lobes was very well defined: the disease, however, was not limited to the upper lobe, but did not appear to have extended by contiguity. The intestines externally did not show marks of inflammation; but on cutting into them, the whole colon was ulcerated in large spreading patches of an oval form in the transverse direction of the intestine, with slightly elevated edges (Plate XII. Fig. 3.). The ilium and jejunum were also ulcerated from place to place along the whole tract, and even in the duodenum within half an inch of the pylorus an ulcer was situated. The internal lining of the intestine was thickly speckled over with minute black spots, scarcely larger than the prick of a pin (Plate XII. Fig. 2.). The whole mass of the mesenteric glands was enlarged, and hardened into a substance of a cheesy consistence; and in several instances the lacteals originating near the ulcers were seen choked up and distended with a white substance till they entered the enlarged glands (Plate XII. Fig. 2.). The kidneys were flaccid, but in no way disorganized. The liver was slightly granulated, but neither hardened nor enlarged.

It is not improper here to remark, that the peculiar gray appearance occasionally observed in the intestines after death, appears to be a product of inflammation or congestion in the vessels. Some of the French writers have considered it a sign of the existence of a subordinate degree of inflammation; but from what I have myself observed, I am much more inclined to adopt the opinion of my friend Dr. Hodgkin, that it is carbonaceous matter deposited at the termination of a process of inflammation which has subsided, indicating therefore the subsidence of inflammatory action; and most probably not a state of actual inflammation, even at the time the deposit took place: for I suspect that the matter has been left by some process of extravasation during a state of venous congestion, whether such have been the sequel of inflammation, or have existed without any previous inflammatory action. It must no doubt require some peculiar condition of the vessels not always occurring in inflammation, or we should find it more frequently than we do; and that condition, be it what it may, is not peculiar to the vessels of mucous membranes, for we sometimes, though more rarely, find it after inflammation of the peritoneum. An instance of this occurrence external to the intestine will be found in Case XXVIII. page 100 of this volume; and I have among others the following observations in a case of death from Carcinoma which I saw examined in 1825. "The peritoneal covering of the mesentery, and in some parts that of the intestine, was sprinkled with a number of black spots, not raised nor of any assignable thickness, but like stains on the peritoneum from sooty matter deposited from the atmosphere; they had no defined margins, were many of them rather gray than black, not unlike the dark gray matter sometimes expectorated, and they were most numerous on the surface of the fatty matter of the mesentery." It is not improbable that previous to the gray deposit, the internal lining of the intestines may have been in a state analogous to that of WHITE, in the case which I shall next relate, covered with an uniform deep red where vessels are no longer discoverable. The three following cases, of which that of HAMILTON alone was phthisis, will serve at least to show the immediate connection between the gray deposit in the intestines, and symptoms of abdominal irritation.

CASE LXII.

JANE WHITE, æt. 27, was admitted into Guy's Hospital, December 6th, 1827, under my care, affected with diarrhœa and cough. She had been much exposed to the temptations of intemperance, and had become the subject of leucorrhœa about nine months previously, which still continued at the time of her admission. For the last three weeks the diarrhœa had been very urgent. She was reduced to a state of the utmost debility; her abdomen was tender; her tongue dry; and her whole appearance was sallow and cachectic; but she said her cough was slight, and she had never suffered from any swelling of the ankles. Her urine was found to coagulate slightly by heat, and her stools to be very deficient in bile. It was obvious that the irregular state of the bowels was wearing her out, and indeed she could never be raised from her bed from the time she came to the Hospital. My remedies, with the exception of a blister to the chest, were entirely directed to the regulation of the bowels, and were as active as the debility of the patient seemed to authorize, consisting of the mildest Mercurials, Castor Oil with Tincture of Opium, Fomentations and Glysters; but she sunk in the course of a fortnight.

SECTIO CADAVERIS.

Considerably emaciated; slightly jaundiced. Cavity of the thorax free from effusion. Left lung quite healthy. The middle lobe of the right lung almost alone was consolidated by tubercular infiltration, and formed into complete cavities near its surface. This part of the lung adhered very closely and firmly to the pleura of the ribs, so as to leave a portion behind when torn away. In this case it was very remarkable that the superior lobe was quite healthy. The middle lobe adhered to the superior; but the line of separation between the two lobes was well marked, showing the importance of the division of the lung. The liver was nearly twice its natural size, altered throughout its structure, with a motley appearance, and a fatty texture, cutting evenly and soft,—it was an approach to what has been called the fatty liver. The gall-bladder contained a considerable quantity of most unhealthy bile; it appeared to be mingled with pus, and with grains of a dark green substance, looking as if gunpowder had been mixed with a thick puriform but greenish fluid. On examining the internal surface of the gall-bladder, it was found to be eroded and superficially ulcerated. The whole ilium was highly vascular; and on being opened, the mucous membrane was in many parts red, as if smeared with red-currant jelly. In several parts solitary elevated pustules full of well

formed pus were found; and in parts these had discharged themselves, and left red ulcerated surfaces neither extensive nor deep, without any slough, and not apparently occupying the places of the congregate glands. The colon was also ulcerated in parts. The Fallopian tube on one side closely adhered to the ovary, and was thus obstructed. The kidneys had both undergone a kind of fatty degeneration, without any tendency to granulation.

Although I adduce this case to illustrate the probable condition of the mucous membrane of the intestines previously to the deposit of the dark gray spots, yet I do not consider it as a well-marked case of phthisis; and it will be observed that the upper lobes of the lungs, the usual seat of phthisical tubercles, were healthy, and that the suppuration which had gone on in the other part of the lung had many of the characters which mark the mixed cases of phthisis and pneumonia, as in Case XLVI. With respect to WHITE, we have also to remark the disorganized condition of the kidneys, which was connected with a secretion of albuminous urine. The liver approaching to the fatty alteration noticed in Case XXXV, and the morbid condition of the gall-bladder, are likewise points of great importance, as there is little doubt that they laid the foundation for greater part of the intestinal mischief which chiefly characterized the disease.

CASE LXIII.

JOHN WARREN, æt. 50, was admitted into Guy's Hospital, January 31st, 1827. He had formerly been a sailor, and was so reduced in his circumstances as to have been obtaining money by ballad-singing in the streets. For the last three months he had felt himself ill, having had a cough with expectoration. A week before his admission he had been attacked with violent pain in the bowels, sickness and purging, and he said that for the last three days he had passed no urine. He complained of pain on pressure of the abdomen, and appeared in great suffering, and much exhausted. The purging continued, and the dejections were loose and unnatural. Tongue furred. A catheter was passed, but no urine came away. He was treated by cupping, fomentations, and afterwards blisters to the abdomen; and emollient injections, and a combination of Blue Pill with the Extract of Hyoscyamus was administered; and as the diarrhœa continued, an attempt was made to restrain it gently by Chalk Mixture with Opiate Confection. He passed urine two or three times while in the house; but as he generally did so unconsciously, I never had an opportunity of examining it.—His death occurred on the 4th of March.

SECTIO CADAVERIS.—March 6th.

Some emphysema was found in the anterior part of the right lung, but the greater part was loaded with serum, which flowed out in streams when an incision was made: towards the back, the substance of the lung had acquired a fleshy consistence. The left lung adhered very firmly, and was throughout consolidated. The heart was rather thickened. The liver healthy. The whole of the intestines when first brought to view were of a leaden gray colour; found on further examination to depend on the state of the mucous membrane, which was covered through its whole extent with innumerable gray points; and this appearance, though seen every where, became more and more marked the nearer the intestines approached to the stomach. The stomach itself was healthy. The spleen decidedly unhealthy, of a light red colour, with some granular deposit. The kidneys, rather small, bore very exactly that appearance which was found in *SALLAWAY* (Case III. Plate II. Fig. 1, 2.). In the right kidney was a small abscess, and one or two transparent cysts upon the surface. The head was examined, and rather more serum than natural was discovered under the arachnoid membrane.

CASE LXIV.

MARTHA PIERCE, aged about 60, was admitted into Guy's Hospital under my care, June 1st, 1827. She had been ill about two months, afterwards became rather better, but about three weeks before her admission was again much worse, passing blood by stool; and for some days she had been labouring under constant vomiting, and was reported to eject nothing but feces from her stomach; that which was shown me was however only a dark green bilious matter. Her hands and feet were perfectly cold; she appeared in a state of complete collapse, could give very little account of herself; and in spite of the application of mustard poultices to the feet and stimulating applications to the chest, and an attempt to introduce various stimulants as well as gentle nourishment into the stomach, she never rallied materially, but died on the 5th day.

SECTIO CADAVERIS.—June 6th.

Some old and not very extensive adhesion of the left lung. The substance of both lungs healthy. The heart pretty natural, with two white patches on its surface. There were slight old peritoneal adhesions. The liver rather granular, and small. Gall-bladder natural. The external appearance of the stomach and intestines not materially unhealthy; but the

mucous membrane lining the stomach was rather gray, and the internal surface of the whole small intestines, from the pylorus to the valve of the ilium, was thickly beset with minute gray points, the intervening surface being generally more red than natural. The large intestines also partook somewhat, but in a slighter degree, of the same gray appearance. The spleen and pancreas showed nothing remarkable. The kidneys were small, and in each the dilatation of the pelvis seemed to have encroached considerably on the secreting structure. The ureters were distended, and the muscular fibres of the bladder were seen unusually strong beneath the mucous membrane: it was thought that this depended on an obstruction caused by contraction of the *meatus urinarius*.

CASE LXV.

PATRICK HAMILTON, about 30 years of age, was admitted into Guy's Hospital, June 13th, 1827, under my care, in a perfectly hopeless state of phthisis pulmonalis. He was pale and greatly emaciated. He had a troublesome cough, with expectoration and diarrhoea, and the absorbent glands of the neck formed soft and large tumours. It appeared that he left Haslar Hospital on the 28th of September, still an invalid; that for the last ten weeks he had suffered from severe cough, and that about seven weeks before his admission he had for the first time spit blood; that this had recurred several times, and that on the morning of his admission he had coughed up nearly a pint of bloody mucus. Pulse 120. Tongue aphthous. Ankles œdematous. He complained of a general sense of tenderness, so that he would scarcely suffer himself to be touched. The tenderness of his abdomen plainly indicated that peritoneal inflammation had been set up.—He died on the 28th.

SECTIO CADAVERIS.—June 28th.

On the right side of the chest the pleuritic adhesions were firm and extensive, and obviously of long standing. On the left they were very trifling; on the right side, towards the lower part, were two or three thickened portions of the pleura without adhesion; but in the substance of the lung beneath was a white firm irregular structure like cellular membrane condensed by inflammation, which did not go deep into the lung. Much of the structure of both lungs was still crepitant, but thickly sprinkled with miliary tubercles: other portions of the lungs resembled the spleen in structure, but these were also sprinkled with miliary tubercles. There were no large tubercles or tuberculous cavities in either lung. The heart was small and healthy, but of a pale colour. The inner surface of

the aorta was of a bright red, which not only extended throughout its whole course, but was observed in other arteries. The peritoneum had formed strong and extensive adhesions at the upper part of the abdomen. The convex surface of the liver was firmly attached to the diaphragm, and the concave surface to the stomach. There were also adhesions about the spleen, in the neighbourhood of which the peritoneum was minutely injected, and of a livid colour. The adventitious matter forming the union was thickly sprinkled with collections of yellow scrophulous matter, most numerous where the adhesive matter was the thickest, but small tuberculous bodies of a similar character were scattered on the peritoneal coat of the intestines where no adhesion existed. Some dirty brown serum was effused into the peritoneal cavity. The mucous membrane of the stomach healthy, that of the small intestines pale; but there were several ulcers scattered through them originating in a deposit beneath the membrane: though small, they were deep, and their direction was that of the valvulæ conniventes, which they chiefly affected. There was no ulceration at the valve of the colon. The mucous membrane of the cæcum was sprinkled with minute spots of a dark gray or black colour; the vermiform appendix had within it some reddish patches; the lining of the colon was pale. The mesenteric glands were much enlarged, and going into a state of suppuration in the centre. The thoracic duct healthy, but small. The liver tolerably healthy, and the bile quite so. The spleen was enlarged to four times its natural size and indurated, there were a few small yellow tubercular deposits in its substance. Kidneys healthy. The glands of the neck in a state of suppuration at their centres.

In the case of HAMILTON we have an instance of the connection of well marked scrophulous disease with genuine phthisis. It is a fact very well ascertained, that scrophulous persons are very liable to phthisis, and yet it would be an abuse of language to assert that phthisis necessarily depends on a scrophulous constitution. The tubercular deposit in the lung in its early stage has no very striking similarity to the genuine scrophulous deposit as seen in the glands; but in the case before us, we have the miliary tubercles in the lung, and we have at the same time that tendency to scrophulous suppuration in the glands both of the neck and of the mesentery, which cannot be mistaken. We have likewise a tendency to the same kind of deposit and suppuration in the spleen; and still further, we find it in the cells of the adventitious membranes where no glandular struc-

ture previously existed. But the point to which I desire most particularly to direct attention in this case, is the condition of the arteries. Although a less time than usual had elapsed before the examination, the arteries were of a deep red colour, apparently from the stain of the blood, but possibly from vascular injection. I do not pretend to account for this phenomenon so contrary to the usual appearance of the arteries after death, and I will not even venture to conjecture whether it depends most on the condition of the vessels or of the blood which circulates within them; but I have the notes of two other cases, which I shall now shortly detail, in each of which the same appearance of the arteries was observed, and in each of which a remarkable general tenderness of the whole body existed, as was likewise strongly evinced in the case of HAMILTON. I will not assert that the appearance and the symptom to which I refer have any connection with each other; but whether that be the case or not, the facts will serve as illustrations of a morbid appearance of the arteries well worthy of future attention.

CASE LXVI.

On the 22nd of May, 1812, a robust middle-aged sailor had his leg amputated below the knee, on account of a fungous tumour situated on the foot, and connected with the fascia plantaris. He was very irritable during the operation: he was afterwards obliged to have a catheter passed, and his pulse rose so much during the following day that he was bled and put upon the use of nitre in his drink; after this he went on tolerably well till the 27th, when he became very feverish, with obvious affection of the chest; a decidedly jaundiced tinge of the skin; and a most remarkable tenderness over the whole body, so that when his wrist was touched to feel his pulse, he immediately uttered a cry of complaint, and the same when any other part was pressed.—He died on the 29th.

SECTIO CADAVERIS.

On examining the stump it was found to be sloughy, a sinus extending about two inches along the popliteal artery. The artery itself near the part, and the femoral artery half-way up the thigh, were internally of as bright a red colour as if they had been covered with arterial blood. The same appearance was distributed in patches throughout the other arteries which we examined; the arch of the aorta, and the aorta itself, the iliac and the brachial arteries; the colour, however, was in none so intense as in the femoral artery. The heart was natural; the pericardium loaded with fat. The lungs considerably gorged with blood; there was a small bony con-

cretion in one lung. The pleura on the right side was healthy. The pleura on the left side, and particularly the portion lining the ribs, inflamed and covered with a thin coating of creamlike fluid exactly resembling pus: there was above a pint of fluid, like a mixture of serum and pus, in the cavity. The intestines were distended with flatus. The liver was rather hard, and in colour and appearance resembled the boiled liver of an ox. The gall-bladder adhered to the neighbouring intestines. The spleen soft. The pancreas natural. The kidneys firm and of a light colour. I may here remark that I have seen the appearance to which I have alluded in the arteries, and likewise in the lining membrane of the heart itself, in one or two other cases where death has followed severe operations, and where the patients have been peculiarly irritable; but where I do not know that external tenderness had been noticed.

CASE LXVII.

WILLIAM CULL, aged 42, a painter and glazier, was admitted into the Clinical ward on the 13th of June, 1827. He had injured himself by the very intemperate use of gin continued for many years; he had been laid up for nearly a year; his legs were swollen, and his countenance was slightly jaundiced: he had some tenderness in the right hypochondrium, and great sensibility in every part of his body and limbs: his urine was of a light orange colour, and did not coagulate by heat. Shortly after his admission he had a profuse hæmorrhage from the lungs, in consequence of which he was bled and cupped, and took the Acetate of Lead: the blood was cupped and buffed; the hæmorrhage was allayed.—He died on the 29th.

SECTIO CADAVERIS.—June 31st.

I own I had a preconceived expectation that we might find the arteries tinged as in the last case; and I was very anxious to obtain permission to inspect, which was granted at the patient's late residence, but not till the third day after his decease, when decomposition had advanced in an unusual degree. However, we were all perfectly convinced that the lungs, which adhered in some parts, were gorged with dark blood; that the liver was of that peculiar tough flesh-like consistence which shows a great change from its natural secreting texture; that the kidneys were not perfectly natural, but slightly motley, with granular deposit; and that the arteries wherever examined were internally of a well marked red colour.

CASES

SHOWING THE INFLUENCE OF IPECACUANHA AND THE Milder Preparations
OF MERCURY IN DYSENTERY.

THE two following cases are inserted in this place, as examples to call to mind the admitted fact of the powerful control which we can often exercise over long-continued and formidable derangement of the mucous membrane of the intestines, by the most simple means; and if from the still more serious organic derangement which is going on, we can only consider such means as palliative in phthisis, which we have just been considering, yet cases of this kind may be allowed to have some influence in recommending the simple plan of treating a certain class of fevers, which it is the object of some subsequent cases to enforce. It may undoubtedly be said, that the affection in fever is more considerable in the small than in the large intestines, whereas the reverse is the case in dysentery: but still the large intestines are affected in fever; and the very lowest part of the ilium, where it terminates in the cæcum, is generally the principal seat of ulceration.

CASE LXVIII.

JOHN GILBERT, æt. 23, was admitted under my care into Guy's Hospital, March 8th, 1826. Five years ago, when going out to New South Wales, he was attacked with dysentery, since which time he has never been quite free from it. The complaint became much worse about three months ago, and it has continued ever since. He had three dejections during the last night, with very urgent tormina and tenesmus, but little evacuation except slime and blood. No tenderness on pressure of the abdomen.

Habeat Pulveris Ipecacuanhæ gr. j, ter quotidie.

9th. Nine dejections. A good deal of loose feculent matter with blood and slime passed with somewhat less pain than usual.

Habeat Pulver. Ipecacuanhæ gr. jfs, ter quotidie.

10th. Only five dejections since last night; much less pain; much more feculent matter.

11th. No blood in the stools, and no pain. Four feculent dejections, partly lumpy.

13th. No motion last night. One copious soft feculent dejection this morning, without pain or blood.

Habeat Olei Ricini fʒiij cum Tinctura Opii ℥v hora somni.
Repetatur Pulvis.

16th. Only one dejection in the last twenty-four hours, almost figured.

Sumat Olei Ricini fʒss, cum Tincturæ Opii m iv, mane quotidie.

Repetatur Pulvis.

17th. The castor oil has acted several times. Motions yellow, feculent, and natural. Slight cough.

Repetatur Oleum Ricini alternis auroris.

Repetatur Pulvis.

20th. No cough. Evacuations without blood or pain.

Habeat Infusum Cascariellæ cum Sod. Subcarbonat. ter quotidie.

Repetatur Pulvis.

28th. No blood in the stools, but the castor oil acts rather too much.

Omittatur Oleum Ricini, et Repetatur Pulvis.

31st. Bowels inclined to be relaxed, without pain or blood; the stools always feculent.

Habeat Sulphatis Quininæ gr.ʒs, ter die.

Rep. Pulvis Ipecacuanhæ.

April 3rd. Dejections still rather more frequent than natural; without pain.

Sumat Misturæ Cretæ fʒjss mane quotidie, et Repetatur Pulvis.

7th. R Hydr. cum Cretæ gr. iij, Ipec. gr. j; fiat pulvis ter quotidie sumendus.

This was continued for a few days, and followed by mild tonics; and the patient dismissed perfectly cured.

CASE LXIX.

JAMES CACHARAN, æt. 60, was admitted under my care, January 25th, 1827, having for the last three or four weeks had frequent dejections containing blood and mucus, and passed with much pain.

Habeat Pulveris Ipecacuanhæ gr. j sexta quaque hora.

26th. Five stools with griping and tenesmus; chiefly greenish mucus mixed with blood.

Repetatur Ipecacuanha.

27th. Passed a better night than he has experienced for a month; disturbed but twice in the night, and experienced much less pain.

Habeat Ipecacuanhæ gr. ij sexta quaque hora.

28th. But two stools since yesterday morning, with less blood.

Repetatur Ipecacuanha.

30. Only one or two stools in twenty-four hours; no griping or tenesmus.

February 4th. Going on well.

In a few days after, without any change of medicine, dismissed cured.

CASES

ILLUSTRATIVE OF THE MORBID APPEARANCES WHICH OCCASIONALLY TAKE PLACE IN THE INTESTINES DURING THE PROGRESS OF FEVER.

FEVER occurred with considerable frequency among the patients who presented themselves for admission into Guy's Hospital during the months of October, November, and December, 1826. On the whole, the disease was not severe, requiring a uniform and mild treatment; though there were many very marked exceptions to this observation. In almost all the cases which came under my care, the symptoms of abdominal derangement very early displayed themselves; and in some instances the stomach likewise was brought to so irritable a state, that it was almost impossible for the patient to retain either food or medicine, and the matter ejected with the other contents of the stomach was often of the brightest green colour. In some cases the fever put on more of the remittent type than the form of genuine continued fever; and in these it frequently happened that the alternate days were marked by a decided aggravation of all the symptoms, while the days of remission held out the flattering hope of speedy convalescence.

Whatever may be the primary nature of the febrile attack, there can be no doubt that early in the disease, not only in the season of which I have spoken, but almost always, the intestinal canal is irritated, and that this irritation keeps up all the bad symptoms, becomes the chief object to which the practitioner should turn his attention, and is not unfrequently at last the immediate cause of death.

The symptoms connected with deranged cerebral function usually take the lead of all others; and even though the patient have not been seen till other organs have begun to suffer, I have generally found it expedient to prevent the tendency to congestion, and sometimes, though rarely, to inflammation, by local applications to the head. If there be no great deficiency in the general heat of the body, a cold embrocation applied after the head has been shaved is obviously agreeable to the feelings of most patients, and conduces much to the cure. Leeches or cupping, where symptoms are more urgent, are often very usefully employed to diminish the congestion of blood in the head, when general bleeding would be inadmissible. But besides the affection of the head and nervous system

which seems to be connected with the first impression of fever, I am quite convinced that there is a secondary state of cerebral irritation, which depends upon the mischief going on in the intestines; and this often shows itself after the fever has continued for several days, increasing with the increase of the abdominal affection, and going on till it produces that general nervous agitation, with injected conjunctiva and constant delirium, which often closes the scene of life.

In some cases the symptoms of irritation in the bowels have followed very quickly after the first indications of fever, almost always before patients have been admitted into the Hospital, which is seldom within the first week, and frequently not within the first fortnight after the attack. The stomach and intestinal canal have become greatly deranged, tenderness is experienced at the pit of the stomach, and five or six watery dejections are passed daily. The character of these dejections is peculiar: they are very loose, and appear as if a quantity of powdery matter of the colour of ochre were thrown into turbid water and sunk in its state of powder to the bottom. Occasionally the patient complains of pain on pretty severe pressure of the abdomen; but sometimes this is not the case. To obviate this state of the bowels, which appears to be dependent on an inflammatory condition of the mucous membrane, I find that the combination of the Hydrargyrum cum Creta, the Ipecacuanha, and the Compound Chalk Powder in different proportions, is almost always the most applicable remedy; and in many cases I have scarcely used any other combination throughout the disease. Under this treatment, simple as it may appear, with the mildest nourishment, I have seen the stools gradually change their character, the febrile symptoms regularly retire, and a state of complete convalescence succeed to the most threatening symptoms. When the tenderness of the abdomen is considerable, leeches to the amount of twelve, fourteen, or twenty, or, if the sensibility of the part does not absolutely prohibit the use of cupping-glasses, the abstraction of ten or twelve ounces of blood in that way, sometimes affords remarkable relief, more particularly if succeeded by the application of fomentations. The most alarming symptom is the irritable state of the stomach accompanied by frequent vomiting, when a quantity of green fluid is usually thrown up either spontaneously or whenever the attempt is made to administer nourishment or medicine. In this case it becomes absolutely necessary to allay the irritation of the stomach; as not only are we pre-

vented from administering the necessary remedies and support, but the patient is completely worn out by the continuance of the painful and exhausting efforts. The task which we are here called upon to perform is often of the greatest difficulty: leeches and cupping at the pit of the stomach sometimes give very marked relief, even when the powers of the system appear much diminished; and sometimes a mustard poultice has proved beneficial, or a blister after the leeches have ceased to bleed. We may likewise have recourse to draughts, with the Subcarbonate of Magnesia and a few drops of the Vinum Opii, or a simple effervescing saline draught. Opium in the solid form with or without Calomel occasionally assists much in allaying the sickness; but often, when every thing has failed, soda water with a small quantity, not exceeding a tea-spoonful, of brandy repeated at long intervals, has remained on the stomach, and enabled it to receive and retain other things after various means have failed.

As the result of the examination of such as have died in the Hospital, and where ample time for accurate investigation has been afforded, I have no hesitation in saying that the mucous membrane lining the ilium, the cæcum, and the commencement of the colon, has been the chief source of that excessive irritation which has been so prominent with regard to the bowels, and that the upper part of the duodenum has probably been the source of the urgent gastric symptoms; and occasionally the whole mucous membrane of the small intestines has been vascular and irritated. How far all this mischief may be referred to a morbid action of the liver, as affording a vitiated, a redundant, or an insufficient supply of bile, I will not take upon me to say: but the liver has not presented any marked evidence of irritation; it has occasionally been rather pallid, and the bile in the gall-bladder more thin and watery than in perfect health; but where this has been observed, it has fairly been a matter of doubt whether we ought to consider it the result or the cause of the intestinal irritation.

The appearances which are most marked in the mucous membrane of the intestines are those of increased action, vascularity sometimes occurring in patches of greater or less extent, without any obvious dependence on inflammation of the mucous glands, and occasionally extending under some form or other through the whole tract from the pylorus to the rectum: but this vascularity is more generally connected with inflammation of the mucous glands, which often appear like the small-pox on the second or third day of the eruption, elevated and almost transparent, and covered

with minute vessels which dip into them from the lining membrane of the intestines (Case LXXIII. Plate XIII. Fig. 2.) ; they scarcely seem to go into a state of true suppuration, but become distended with a yellow cheesy matter, and slough off; or sometimes ulceration takes place upon their points externally, without any collection of yellow matter being perceptible (Plate XIV. *a, b.*). The same process, or nearly so, takes place both in the solitary and in the congregate glands; except that in the latter the appearance becomes much more formidable, and the mischief more extensive. The masses or clusters of congregate glands are chiefly placed along that part of the intestine which is furthest from the insertion of the mesentery: and when the parts are irritated from disease, three, four, or five considerable branches of vessels are seen passing on the mucous membrane, from the mesentery on each side, towards the cluster of congregate glands (Plate XIII. Fig. 3. *d, d.*): these divide and subdivide before they reach the glands; and running in part over the surface of the cluster till their distribution is lost to the eye, enter apparently into the thickened mass of glandular structure beneath. The glands themselves seem first to enlarge, becoming distinctly visible to the eye (Case LXX. Plate XIII. Fig. 1.), and after some time form a thick flat mass of a lighter colour than the surrounding intestine (Case LXXI.); this sometimes increases to the thickness of a half-crown piece, and occasionally even spreads on the top, so that the surface overhangs the base nearly the sixth part of an inch (Case LXXIV.). Sometimes a dark-coloured matter like grumous blood is deposited amongst the glands; so that the whole mass instead of being lighter than the intestine, is of a brown colour, elevated evenly above the surface: but in either case the mucous membrane is at first only raised, and not broken. In a little time fissures are formed with ulceration on this mass, and ulcers more or less deep occupy the surface of the whole (Case LXXII. and LXXIII. Plate XIII. Fig. 2. *a, a.*). Where the irritation is little, the ulceration is often mild and merely superficial; but when any thing has occurred to irritate the ulcer, it becomes deep and ragged, with an uneven bottom, caused apparently by the projecting remnants of the enlarged glands (Case LXXVI.), or it is filled by a dense slough stained of a yellow colour by the bile and fæces (Case LXXV. Plate XIV.). As the inflammation subsides, the depth of the ulcer diminishes; and the greater part of the glandular structure being apparently removed by ulceration and sloughing, the edges fall down and the ulcer

becomes shallow, sometimes leaving the muscular fibres nicely displayed (Case LXXVI. and LXXVII.), or often exposing the internal surface of the peritoneum for the space of a quarter or half an inch square. This excavation is filled up by a process of granulation, which may be seen very beautifully by suspending the intestine cut open before a lamp or bright sunshine, and examining it with a common lens (Case LXXVIII.); the granulations are then seen, sometimes arising in broken lines in the direction of the muscular fibres (Plate XV. Fig. 3. *a, a.*), at other times arranged in radiated lines around a central point (Plate XV. Fig. 3. *b, b.* Fig. 4.); and when the whole is healed, a scar remains visible for some time, not unlike a superficial scar from the small-pox, and generally interspersed with slight elevations of a grayish colour. This scar appears to be covered with a true mucous membrane, the surface being quite continuous with the membrane lining the rest of the canal; indeed when inspecting the ulcer in the process of healing, we perceive the vessels of the mucous membrane running over the surface to be repaired (Plate XV. Fig. 3. *d, c.*). The whole process of the ulceration and the healing is quite analogous to those painful and irritating sores which frequently take place within the lips, or on the mucous membrane lining the cheeks, where obstruction in the follicles, enlargement, ulceration, sloughing, and perfect repair, are all most distinctly and easily traced. The space occupied by the ulcers in the intestines is usually about two feet at the lower end of the ilium, and frequently the valve of the colon on the side next to the ilium is the part where the disease is furthest advanced. A few ulcers are likewise often found in the cæcum, and some are occasionally dispersed along the colon, depending on a process very similar to that which I have described as taking place in the small intestines; but the glandular distribution being in this part more simple, the ulcers usually commence by small rounded elevations, and not in spreading masses.

The peritoneal covering of the intestines at the back of the ulcers is generally discoloured and vascular, but seldom appears actually inflamed; and the distribution of the vessels is somewhat different from that of the vessels which may be seen through the peritoneum on the mucous membrane, and is perhaps chiefly derived from vessels belonging to the muscular structure; for instead of forming numerous branches, they arrange themselves in parallel lines with vessels crossing nearly at right angles (Plate XIII. Fig. 4.). Occasionally, however, the mischief is not confined

to the mucous or even the muscular covering, but the peritoneum becomes decidedly inflamed; in which case the symptoms are always greatly aggravated and the tenderness of the abdomen is much more marked, and after death a sero-purulent effusion is found, and shreds of coagulable matter glue the convolutions together. In a few rare cases the ulceration finds its way completely through the peritoneum, and a portion of the contents of the intestine actually passes into the cavity of the abdomen; when general inflammation is excited, and death follows (Case LXXIX.). With these appearances of the intestines we usually find some considerable derangement in the structure of the mesenteric glands: they are almost always enlarged and vascular, often exceeding the size of a pigeon's egg, and appearing quite covered with turgid vessels (Plate XIII. Fig. 2. *b*. Plate XIV. *d*. Case LXXI.). They are in general most affected immediately opposite to the ulcers of the intestines, and occasionally go into a state of complete suppuration (Plate XV. Fig. 1. *i*.), so that I have seen them apparently on the point of discharging themselves through the peritoneum into the cavity of the abdomen; but I believe that not unfrequently the pus even after it has been formed, is absorbed and quietly subsides (Case LXXVIII.).

Although I have thus minutely described the morbid appearances of the intestinal canal in certain cases of fever, yet it must be remarked that even in these very cases other organs suffer almost as much, and in individual instances much more, than the intestines; particularly the brain and its membranes evince marks of congestion; and the effusion of serum and even fibrin occasionally takes place: nor is it at all unusual to find symptoms of inflammation in the lungs followed by all the alteration of structure observed in the most acute pneumonia. It is however still more common for a state of stagnation to take place in the circulation of the lungs, so that the organ is no longer able to unburden itself; and the most distressing dyspnoea, ending even in fatal congestion, is the result, in which cases the appearance of the lungs sufficiently indicates the cause of death; but there is decidedly no class of morbid appearances so frequent, and none more important, than those which involve the structure of the intestines; and to these I shall at present confine my remarks.

The observations which I have made upon the progress of this most important train of morbid changes cannot be viewed as matter of useless speculation; for they lead us at once to inquire into the most secure mode

of treatment, where we can ascertain the existence of mischief which adds so materially to the risk of life. The symptoms by which fevers accompanied with irritation of the lining membrane of the intestine have at first been ushered in, have frequently differed but little from the ordinary symptoms of fever where the injury has afterwards fallen upon some other organ. It has occasionally appeared that the bowels have been relaxed from the beginning, so as to excite the attention of the patient; but more frequently the contrary is found to have been the case, and then it is a matter of the highest importance to remove any accumulations which have taken place, and prevent them for the future. For this purpose it is necessary to have recourse to efficient purgatives; but the less irritation we produce, the more likely we shall be to afford permanent relief. If we can obtain the effect by Calomel followed by Castor Oil, we cannot possibly do better: or there are some advantages in the employment of a combination of Calomel and Rhubarb, which may render that a more convenient form of remedy. Whichever we may prefer, we should be directed in its repetition entirely by the nature and extent of the evacuations. As long as the dejections are feculent and not too watery, and as long as they pass without pain, we shall never be doing harm by our purgatives. On the contrary, the moment that any thing like watery diarrhoea comes on, either after purging has produced irritation, or when from want of proper purging the contents of the bowels have given rise to it, we must always bear in mind that the mucous membrane is getting into the state referred to in the foregoing observations, after which every thing like brisk or irritating purging must be avoided. The moment the yellow ochrey diarrhoea has taken place, I think there can be little doubt that the intestines are either actually ulcerated or are on the very point of ulceration; and then in general the irritation of the canal is of itself sufficient to prevent accumulations; and it must be our great and constant object to improve the secretion of the intestines and the connected viscera rather than to purge actively. We must not, however, for a moment entertain a project of putting a stop to the diarrhoea: we must watch it carefully and constantly; and if we have any reason to doubt the sufficiency of the discharge, we must act gently by means of Castor Oil guarded with a few drops of Laudanum, or by simple emollient Glysters. But in general this, which I conceive to be the period when ulceration is commencing, is the time when the combination of the mildest mercurials, the Hydrargyrum cum Creta, and the Compound Chalk Powder,

with or without Ipecacuanha, is administered with the greatest benefit; and it is advantageously continued till the cure is complete. In the following cases it will be found that I have often trusted the progress of the fever so much to the regulation of the bowels by these simple means, that I have appeared to forget the primary disease in my attention to this particular train of symptoms; and in truth I have almost done so, because I have very frequently found the cure of the disease keep exact pace with the improvement taking place in the state of the alimentary canal. This combination generally of itself acts as a purgative; and if it does not, a simple gruel injection seldom fails to produce sufficient effect. During the whole period, however, that our attention is turned to the secretion of the mucous membrane, we are not to forget the possibility of vascular fulness, or even of inflammation being set up in some part of the abdomen; and to overcome this, when we have decided reason to believe in its existence, we are to employ external fomentation, leeches, and even cupping: but these remedies, admirably suited as they often are to this form of disease, must be used with some caution; for I am persuaded that I have seen mischief result from an inclination to believe that every painful affection of the abdomen, more particularly if increased by pressure in the advanced stages of fever, must necessarily be inflammation, and call for the abstraction of blood.

I have almost always found that the small doses of antimonial remedies usually administered as a part of the diaphoretic plan in fever, do harm where any decided tendency in irritation of the bowels exists. I have therefore usually substituted the Ipecacuanha wine, with the view of assisting a free discharge by the skin; but in many cases, harm rather than good is done by the use of saline remedies and diaphoretics in any form, as they irritate the bowels without materially aiding in that more equable distribution of the blood which is the professed object of their employment. With regard to the administration of tonic remedies, there is not a doubt that they are of essential importance; and that even while evidence exists of much local mischief in the bowels, it will sometimes be necessary both to support and to stimulate the system: looking indeed to the character of the ulcerations, the deep sloughs which they often form, and the dark red inflammation which surrounds them, there would be reason to suppose that such remedies might be useful; and occasionally the decidedly remittent form which the fever has assumed, has completely removed every

scruple, and led to the free exhibition of the Sulphate of Quinine with admirable effect. At the same time there is more danger to be feared from the too early use of stimulants, as long as the system is still able without their aid to support the febrile prostration, than there is risk in abstaining from stimulants a little beyond the period when they might possibly begin to act well. In a general way the system seems capable of supporting itself for a few days under that great degree of prostration which is connected with advanced ulceration of the bowels; and although we cannot determine the exact state of the ulcers in these cases, yet we find that the action of stimulant and tonic remedies is often more certainly beneficial after that state of prostration has existed for some time, than when such remedies are administered with a view of obviating or anticipating the first symptoms of collapse: for when administered too soon, they frequently kindle the inflammatory action with redoubled violence; and then it is that the most appalling combination of debility and nervous excitement is seen for one or two days to precede death.

It is not perhaps within the power of human skill always to avert those awful scenes with which fever frequently terminates; but most undoubtedly there is no more certain way of interposing to prevent them, than by making ourselves acquainted with the nature of the mischief with which we have to contend.

CASE LXX.

M. R., a servant-maid, was admitted into Guy's Hospital June 6th, 1826. She gave no distinct account of herself, but as far as we could learn had been ill about a week. The head had been always chiefly affected; she was scarcely sensible from the time she came in; and on the night after admission was so delirious as to require restraint: on the following day she had one dark-coloured dejection. She seemed in a most prostrate condition; her arms were constantly moved by subsultus, and she was apparently quite unconscious of every thing.—She died on the evening of the second day.

SECTIO CADAVERIS.—June 9th.

The lungs were very healthy: on the front part light coloured, as usually in young persons; some congestion in the posterior part, but simply from subsidence. The lining membrane of the large branches of the bronchi was of a dark brown red colour, and there was more mucus

spread upon it than natural. The heart was perfectly healthy, but the right ventricle gorged with blood; none of the blood in the heart was firmly coagulated. No effusion had taken place into any of the cavities. The liver rather flaccid, but healthy. The stomach looked vascular, as from venous congestion externally; and when cut into, the part towards the pylorus was very red with numerous small points as from open orifices of bleeding vessels. The upper part of the intestinal canal was pretty healthy, but the greater part of the ilium was manifestly in a state of congestion. This was very remarkable externally; the fine vessels like branches of trees were seen embracing the whole intestine, and when the bowel was opened it was evident that these were the vessels of the mucous membrane; for besides their being still more plainly seen within, they were completely stripped off with the mucous membrane, leaving the peritoneal coat without evident vascularity. This condition of the mucous membrane was most marked in the parts neighbouring to the masses of congregate glands. These glands were themselves more visible than in perfect health, giving an appearance of bodies considerably larger than millet seeds, nearly transparent (Plate XIII. Fig. 1.), and more marked than natural, rather on account of the surrounding vascularity, than on account of any inflammation or vascularity within themselves. In two or three instances, patches of decided ecchymosis of a purple colour were seen in the masses of congregate glands; these were about the size of a grain of rice, and three or four occurred together. The disease of the mucous membrane had in no part made further progress; about the ilio-colic valve a little more vascularity was seen. The colon itself was healthy. The kidneys rather gorged with blood. On looking into the pelvis, dark vessels were seen abundantly distributed about every part, and the uterus itself was purple. On removing the uterus it was found throughout to be loaded with blood; it was a little deformed in shape, but not larger than natural, and the cavity did not appear distended. The right ovary had a most decidedly marked vesicle of the size of a large pea, like a corpus luteum surrounded by a yellow line, and dark within; the left had a much smaller vesicle of the same kind. The vessels on the surface of the brain were turgid, and on the left side there was a partial slight deposit of opaque yellow fibrin, running along the side of some of the chief branches of the vessels, in little patches of the size of grains of rice. The ventricles contained a considerable quantity of serum; and though it was impossible

to calculate it exactly, yet there were evidently several drachms. The corpus callosum and the neighbouring parts were rendered soft by the contact of the serum.

In this case we have an opportunity of observing the early stage of that diseased condition of the mucous membrane of the intestines which so frequently shows itself in the progress of fever. This case terminated fatally about the eighth day, apparently from the severe inflammatory affection of the arachnoid membrane; for the traces of disease in the head were of a very unequivocal character. The intestinal canal had suffered considerably, but the mischief would in all probability have gone much further before it would have destroyed life. Much turgescence of the vessels had taken place; the mucous glands were enlarged, and a little blood had been poured out into the cellular membrane surrounding them.

CASE LXXI.

T. S. æt. 27, was admitted into Guy's Hospital, under my care, July 29th, 1827; but as he came late in the afternoon and died the same night, I had no opportunity of seeing him; and Mr. J. W. Fagg, an intelligent pupil who was the dresser for the week, has supplied me with the following statement. "T. S. has been working at a druggist's shop for the last five or six months; and it was thought by his friends that the drugs affected his bowels, having for some weeks complained of diarrhœa, so that he was often obliged to rise from bed during the night. For the last few days he complained more, and his head was at times painful; but though he did not go to his work, he did not confine himself to his bed; he was never observed lately to cough or expectorate. This morning, July 29th, he began to wander in his intellect, and in a short time required persons to confine him: for the last twenty-four hours or more his bowels had not been moved. He had taken medicine from the Dispensary for two or three days: I saw him in the afternoon, and found him sitting on the side of his bed, looking rather wildly about him, and talking in a very incoherent manner; but he was then quite tractable, and put out his tongue when asked. He appeared to be very weak; his pulse was quick, and his tongue rather foul. When asked at what part of his head he felt his pain, he put his hand to his forehead. He was brought to the Hospital, where Mr. Stocker saw him, and prescribed for him, and ordered a blister to the back of his neck: about nine in the evening he could not be kept in bed, and the strait jacket was employed. Early the next morning he died.—He was found to have passed a stool in the bed."

SECTIO CADAVERIS.—July 30th.

I attended the examination myself; and the following is an accurate account of the appearances. His back, and more particularly about the part where the blister had been applied, had the appearance of petechiæ and even ecchymosis. The heart contained very little blood and no coagululum. The blood in the vessels was very fluid. The lungs were gorged with blood, and there was bloody froth in the bronchi. The upper lobe of the left lung showed traces of two or three small tubercles, which seemed to have suppurated and to be healing. On opening the abdomen the whole of the intestines were observed to be very vascular: the blood was dark coloured, and chiefly in those arborescent vessels which belong to the mucous membrane; and accordingly on opening the intestines it was found that the lining membrane, from the pylorus to the very termination of the ilium, was morbidly vascular, and was in most parts covered with a layer of tenacious mucus to an extent rarely observed. The lower part of the ilium for about a foot and a half was not only in a state of vascular congestion, but the glandulæ congregatæ formed opaque masses which looked lighter coloured than the surrounding membrane, and were elevated about twice the thickness of a wafer; and on some, slight ulceration had commenced: this, however, was more remarkable on one or two of the solitary glands. The mesenteric glands were much enlarged; many of the size of pigeons' eggs, and looking of a chocolate colour from dark vascularity: none of them had suppurated. The mucous membrane of the stomach towards the cardiac extremity was of a bright red, and the mucus was tinged with blood. The liver and the kidneys were healthy. There was slight vascularity, but no distinct morbid appearance in the brain.

In this case the disease of the mucous membrane of the intestines was both general and severe. An unusual quantity of tenacious mucus had been poured out, and the masses of congregate glands had proceeded a step further in disease than in the last case.

CASE LXXII.

DENIS MACARTHY was admitted a patient into Guy's Hospital, labouring under fever, which it was believed he had contracted by visiting his wife, who lay very dangerously ill with fever in the Clinical ward, and who had been affected with ex-

treme congestion of the lungs and with diarrhœa, probably connected with ulceration of the intestines. The husband died with symptoms somewhat similar, about the 8th day of distinct fever.

SECTIO CADAVERIS.

The lungs were perfectly healthy, except a slight redness and congestion of the bronchial membrane. The heart healthy. The liver healthy. The gall-bladder small and contracted. The spleen rather turgid, but not large. The pancreas very white and healthy. The stomach healthy, rather large, and its coats strong. The whole tract of the small intestines was vascular, and in many parts the *valvulæ conniventes* were very red, particularly at their edges, and covered over with bile, as if the secretion of the liver had been hurried along the ducts without being delayed in the gall-bladder. In the lower part of the ilium the masses of congregate glands were seen thickened and vascular, and on some, small portions of the surface were ulcerated. The colon appeared but little inflamed, and yet near to the valve it was vascular; and further on were several ulcers, affecting the edges of the valvular folds: there were some amongst them surrounded by a gray deposit, and apparently healing. The intestines contained a good deal of yellow feculent matter.

In this case still further progress is observed in the morbid condition of the mucous glands; the process of ulceration had begun. It is not improbable that some of the ulcers in the colon had existed previously to the attack of fever; but this is only conjecture, as I know nothing of the previous history of the patient.

CASE LXXIII.

MARY LOOCH, æt. 16, was brought in a coach to Guy's Hospital, November 16th, 1826, while I was present. She was in a state of such apparent collapse, with purple cheeks and cold and purple extremities, that I scarcely thought she could be taken alive into the ward. I ordered her immediately to have some warm brandy and water, to be put into a warm bed, and to have bottles of warm water applied to her feet; and in about an hour after, when I saw her again, I found her somewhat revived. She was still, however, in a state of great oppression, lying flat on her back. Her cheeks and lips of a purple colour. Tongue loaded with a brown fur, but moist. Her eyes, half closed, showed the conjunctiva injected with dark blood. Pulse 120, weak. Respiration 30. When not roused she fell into a state of muttering delirium, but when

spoken to seemed rational; and as those who had brought her did not remain with her, I was obliged to collect what I could from her own account, which was not very distinct. She said that fourteen days before, she had been attacked with fever from exposure to cold; that her bowels had been much relaxed, and still continued to be so. I afterwards learnt that she was a servant-maid lately come from the country, and had been put to sleep in a very cold and damp underground apartment, and that this was apparently the cause of her disease.

Sumat Infusi Serpentariæ fʒjss, cum Ammon. Subcarbonat. gr. v, tertia quaque hora. Applicentur Cataplasmata Sinapis Pedibus.

She was also ordered to have nourishment frequently, with a small quantity of wine.

17th. Countenance improved, but she still lies flat on her back: has muttered and wandered a good deal during the night. Cheeks purple. Eyes turgid with dark vessels. Pulse 120. Skin less cold. The purple colour which occupied the whole feet yesterday, still remains about the ankles, having the appearance of permanent ecchymosis. One stool, reported of a dark colour.

Injiciatur Enema commune vespere.

Repetantur Medicamenta.

18th and 19th. The symptoms appeared rather to improve, but the alteration was little, and the breathing always continued quick.

20th. Countenance rather less sunk. Vessels of conjunctiva less turgid; but she complained of a pain in the lower part of the abdomen, which had been very severe during the night, but was much relieved by warm fomentations. The abdomen felt hard, and was rather tender. Had passed but one stool for twenty-four hours, which was mixed with mucus tinged with blood. Tongue dry and cracked. Pulse 148. Respiration 44. Urine apparently abundant; it contained a flocculent shreddy deposit.

Injiciatur Enema ex Oleo Ricini cum Tincturæ Opii ℥xx statim.

Applicentur Hirudines sex Abdomini, et foveatur Abdomen postea.

R Pulver. Ipecac. gr. j,

Hydrarg. cum Cret. gr. iij,

Pulv. Cretæ comp. gr. x, Misce; fiat pulvis ter quotidie sumendus.

In the evening after the glyster and the leeches she appeared better, but in the night grew rapidly worse, and sunk before the morning.

SECTIO CADAVERIS.

Little emaciation. The ankles covered with ecchymosis. In the left cavity of the thorax was a collection of about a pint and a half of a brown

turbid fluid. The posterior part of the lung presented externally a very remarkable appearance of ecchymosis, which was not confined to the outside, but was distributed in masses like small peas through a considerable portion of the lung, some parts of the lung bearing nearly the appearance of black or red currant jelly, from the accumulation of blood thus apparently extravasated. The right cavity of the chest contained about a pint and a half of turbid yellow serum, in which were floating shreds of coagulable matter. The lower lobe of the lung, both where it lay upon the diaphragm and higher up, was covered with a coating of fibrin; its structure at that part was altered from recent inflammation; its colour red, and its substance hepatized. The heart was healthy. When the abdomen was opened it appeared at first healthy, but on drawing some of the small intestines from the pelvis they were obviously discoloured, and contracted in different portions; and when laid open, it was seen that the ilium for the space of two feet before its termination in the colon was greatly diseased (Plate XIII. Fig. 2.). The whole mucous membrane was vascular; and the solitary glands were enlarged nearly to the size of peas, and were highly vascular: some had become of a dark colour, and some had actually ulcerated on their summits; while the congregate glands formed masses of a brownish or olive-green colour, elevated considerably above the surface, but formed of little granules, some darker and some lighter. The greater part of this mass seemed to be covered by an unbroken though spongy mucous membrane, for vessels ran numerously over the top: in some parts, however, there was obviously a breach in the surface; and close to the valve was a most singular dark rugose mass, not in an actual state of ulceration, but looking like fungous granulation. Higher up in the ilium, and beyond the part which was so generally inflamed, we met with a part which appeared to have been an ulcer of the congregate glands which had healed. The duodenum was rather thickened. The stomach was healthy. The liver was of a pale drab colour; but on making an incision, some blood was found to flow from its vessels.

In this case fever was complicated with severe pneumonia, which had already committed its ravages on the lungs before the patient came under treatment. No doubt to the state of consolidation in the right, and congestion of blood in the left lung, must be ascribed many of the most prominent symptoms; but the condition of the intestines was quite sufficient

of itself to have produced most severe irritation in the system. The disease of the mucous glands in this case seems to have advanced another step beyond what has been detailed in the case of MACARTHY.

CASE LXXIV.

ELIZABETH UPTON, a servant-maid about 22 years of age, was admitted into Guy's Hospital under my care, October 13th, 1825. She was said to have been labouring under typhus fever for three or four weeks. As she came late in the evening and on an irregular day, I did not see her. The chief symptom to which attention was attracted, was the great tenderness of the abdomen on pressure. Her tongue was moist; but there was much prostration of strength. Leeches were ordered to the abdomen, and a pill administered containing a grain of Calomel with some Opium and Tartrate of Antimony. The following morning I saw her, and found her in a state of the most complete collapse. She appeared to feel no pain on pressure of the abdomen: she could take no nourishment; nor could she put out her tongue: I could see, however, that it was dry and furred.—She died the same night.

SECTIO CADAVERIS.

The chief morbid appearance was in the ilium, the internal membrane of which was thickly studded with enlarged mucous glands about the size of a small pea; and from place to place a large patch formed by a collection of the congregate glands in a peculiar state, looking more like a fungus growing on the surface than an ulcer, and spreading out much wider at the top than at the base, so that a scalpel could be passed under its edge nearly the sixth of an inch round its whole circumference. This mass was hard to the feel, and towards its centre was ulcerated. All the mesenteric glands were greatly enlarged.

In this case the form of the disease attacking the mucous glands seems to have varied a little: the symptoms with which it had been accompanied were those which led to its being considered a case of fever; and there seems no reason to doubt that it was so. The preparation of the intestine is preserved in the museum of Guy's Hospital, and is by no means the only case in which I have seen this variety in the appearance of the ulcer.

CASE LXXV.

WILLIAM STIFF, a middle-aged man, was admitted into Guy's Hospital, Nov. 25th, 1826, labouring under fever which had existed about six days. The symptoms were, I understood, very severe; but my attention was not particularly drawn to him till three days previously to his death, when he had been in the Hospital about eight days. At that time he was no longer sensible, and had been very delirious during the night. He furnished a most striking example of that combination of depression and excitement which is most appalling in fever. The conjunctiva was injected; the eyes half closed. The lips, covered with sordes, moving involuntarily. The tongue dry, cracked, and red. The hands were constantly agitated without any controul of the will. I saw him several times during the last two days of his life:—though once or twice some amendment was observed, the symptoms varied but little. His bowels were all the time much relaxed, and the motions he passed were of that yellow watery character which I have so often seen connected with ulceration of the intestines.—He died on the 6th of December, about the 17th day of the fever.

SECTIO CADAVERIS.—Dec. 7th.

The lungs were healthy, but had that plastic feel which is sometimes the result of mucous effusion into the cells. The heart healthy. The liver, spleen, and pancreas, all healthy. The only disease was in the mucous membrane of the intestines, and this was chiefly confined to a space of about two feet in the lower part of the ilium. The whole of this surface was inflamed, varying in different parts; but in some places it was of the most intense red colour, and numerous solitary glands were seen in different stages of progress towards ulceration and sloughing, while the masses of congregate glands bore a most formidable aspect; they were distributed at about three or four inches from each other, forming ulcers, varying from an inch to two inches in length, and about half an inch in width; and these had elevated margins, and were filled with thick olive green sloughs, just ready to separate from the edges: the disease was most advanced close to the valve of the colon: and there were two or three small round ulcers of the same character in the cæcum external to the valve. The mesenteric glands were swollen to the size of pigeons' eggs, and loaded with vessels turgid with venous blood (Plate XIV.).

No case could more forcibly illustrate the advanced stage of this for-

midable ulceration where the whole mass of glands is forming a deep slough; nor could any case demonstrate more plainly the symptoms of cerebral irritation which attend this stage of the disease.

CASE LXXVI.

CHARLES GROVES, æt. 25, was admitted into Guy's Hospital, October 13th, 1826, with well marked fever, which had already existed three weeks. I saw him on the 23rd lying on his back in a doze, his tongue dry and brown, and red at the tip. Pulse frequent, not apparently very weak, but changing quickly as to frequency, particularly when he was spoken to. His eyes were suffused. His hands were in a constant state of agitation, as if he were half-clasping them towards one another to inclose some object between his fingers. He muttered indistinctly when addressed. The skin of the body felt hot. His bowels had been for about four days in a constant state of purging.—He died on the following day.

SECTIO CADAVERIS.

The lungs were harder than natural, apparently from a high state of congestion, and on squeezing them a good deal of serum mixed with air and blood escaped; no part was perfectly natural, and one or two portions of the extent of half an orange were more deeply red, and filled with bloody effusion. This condition of the lungs did not appear the genuine result of inflammation, but of congestion. The lining membrane of the trachea was vascular and of a brown colour, likewise from congestion. A coagulum had separated from the blood in the cavities of the heart. The liver was healthy, neither dark in colour nor turgid. Spleen natural and soft. Pancreas healthy. Gall-bladder rather large. The lining membrane of the stomach in general pale, and slightly hard. Intestines inflated, and appearing externally vascular, but not to any great degree. About two feet of the ilium close to the colon was highly coloured with turgid vessels. On opening the whole alimentary canal the internal surface was healthy till within two feet of the colon: here patches of vascularity showed themselves, of a very deep colour, and some insulated ulcers, which were always on the side opposite to the insertion of the mesentery. This appearance increased on approaching the colon, and the last foot was very much ulcerated quite to the valve; and on the valve itself was situated a large ulcer. These ulcers varied from the size of a small pea to the size

of a half-crown; but they were generally oblong rather than round: they were seen in different states; some were simple elevations, of the size of a shot, like yellowish deposits underneath the mucous membrane, or enlarged mucous glands; others had on the upper part of this small elevation a more yellow spot, and surrounding this a slight zone of inflammation; in others this yellow was becoming like a slough with a slight breach of surface; in others this was much increased, of the size of a silver twopenny-piece, with a decided ragged slough, apparently tinged by the fæcal matter; in others this slough was removed, and the vessels underneath showed the direction of the muscular fibres; in others, particularly the larger ones near the valve, the whole was filled with a knotty irregular granulation, looking like a fungous increase from the mucous glands, and the edges were elevated. The caput cæcum coli likewise presented ulcerations resembling the smaller ulcers which were covered with a ragged slough in the ilium; there were about eight or ten of such ulcers in the cæcum, and the whole mucous membrane in this part was thickly strewn with small miliary elevations, which were light coloured on the red ground-work. The colon itself from this point was healthy. The vermiform process was small, and in no ways thickened or affected by the disease. The bladder contained about half an ounce of thick muddy urine. On removing the dura mater the arachnoid was turgid; a very manifest effusion of serum had taken place beneath it, and air was observed in some of the vessels; while in one or two places was the appearance of extravasation of blood to an exceedingly small extent. Nothing remarkable in the substance of the brain; it was firm and natural: some who were present thought a few more vascular points were observable, and a little more redness in the cortical part, than natural. The ventricles contained decidedly more serum than natural, not less than an ounce. The large vein of the choroid plexus was very turgid.

In this case, as perhaps in most of these advanced cases, the cerebral irritation, though plainly from the succession of symptoms a consequence of the abdominal affection, became the immediate cause of death. I am sorry that although I procured an excellent drawing of these ulcerations when the slough had just separated, I have not been able to let it accompany this case; but I hope at some future time to remedy this omission: it would form a link in the series of engravings which is wanting.

CASE LXXVII.

M. S., a young woman, was admitted into Guy's Hospital, about the 10th of Nov. 1826. She was admitted on an irregular day, because she was stated by the medical man who had attended her to be labouring under the advanced stage of fever; and such to all appearance was the case: however, it was soon found that the tenderness of the abdomen was so great as to call for very peculiar attention. Leeches and blisters were applied, and she appeared to improve greatly; but the blistered surface began to inflame: erysipelas took place on her face; and she sunk rapidly.

SECTIO CADAVERIS.

The peritoneum was quite free from inflammation, but the mucous lining of the ilium, more particularly near to the cæcum, was deeply ulcerated, so that in one spot more particularly the fibres of the muscular coat were completely dissected out. The mesenteric glands were highly inflamed, and several contained in their cavities a cheesy puriform mass; externally they were very vascular.

There is little doubt that the advanced state of the disease in the mesenteric glands gave rise to the excessive tenderness experienced on pressure in this case; as it is not common to find the abdomen excessively sensible, when the mucous membrane alone is implicated. The condition of the ulcers in this case marks one further step in the progress of this formidable disease, when the slough being separated the muscular fibres are exposed.

CASE LXXVIII.

JANE WILLIAMS, about 20 years of age, was admitted into Guy's Hospital, early in October 1826, labouring under fever, which became excessively severe, and was very protracted. The bowels at one time, and afterwards the stomach, were in a singular state of irritability; and while she was still in a very precarious state from fever, she suffered a severe attack of erysipelas in the head. From all this she seemed to be rallying, when she became the subject of pneumonia; and died at length upon the 19th of November.

SECTIO CADAVERIS.

The lower lobe of the left lung was highly inflamed. The pleura was covered with a coating of fibrin, underneath which were several spots of

ecchymosis. The lung itself at that part felt very hard, and when cut, a considerable quantity of fluid ran out not intermixed with air-bubbles. All the other parts of the lungs were remarkably healthy, except some slight appearance of ecchymosis in places. The heart was rather small. The liver was very pallid. The gall-bladder was held down by some strong adhesions of the omentum reaching to the pelvis. The pancreas and spleen healthy. The lining membrane of the stomach was rather soft; the lower three inches of this organ were so firmly contracted that it appeared like the duodenum, and of course the mucous membrane was much corrugated. The inside of the duodenum was of a gray colour, as if it had undergone some great irritation. The whole tract of the intestines was pretty healthy till within two or three feet of the valve of the colon; and here the peritoneum was marked externally with several roundish spots of a dark purple or black colour, rather elevated, and looking like spots of the darkest purpura, as I have sometimes seen it in this part. The surrounding intestine was rather contracted and of a purple colour, as from some degree of venous congestion. These appearances were more manifest on approaching near to the valve; and one or two of the purple spots about that part, of the size of a silver penny-piece, seemed by the way in which they projected, to threaten a rupture of the membrane: still however the peritoneum retained its firm consistence and its polished surface (Plate XV. Fig. 1.). On examining the intestine internally, it was found that each of these spots marked the situation of an ulcerated patch of congregate glands (Plate XV. Fig. 2.): and here the protracted character of the fever had afforded to the system, during the period of convalescence which had been interrupted by the attack of pneumonia, an opportunity to make considerable progress in repairing the mischief which had been done. Although the part looked dark, as if from the extravasation of venous blood, yet this appearance was lost when the intestine was held before the strong light of the sun; and then each of the ulcerated portions presented an appearance, most beautifully illustrative of the process of reparation in the intestine. The mucous membrane in some parts was completely destroyed: in one part it remained as a bridge over the ulcerated surface (Plate XV. Fig. 4, and Fig. 2, *b.*). Granulations were seen sprouting from the bottom of the shallow ulcer, or rather from the smooth internal surface of the peritoneum; and vessels ran across from the neighbouring sound portions of mucous membrane, apparently

to assist in repairing the breach. These circumstances will, however, be better understood by a reference to the Plate (Plate XV. Fig. 3, 4.). The mesenteric glands seemed to have suffered much inflammation, but that had for the greater part subsided; one of the glands immediately opposite to the worst of the ulcers had gone completely into suppuration; externally it was almost black, but it was flaccid, and the fluid pus with which it was filled would probably have been absorbed.

In this case we observe the ulceration in another stage of its progress, undergoing the important process of repair. It is the certainty that this does take place, which strengthens and supports our hopes in the most formidable and advanced cases of this disease. We also see in this case, that the mesenteric glands were in a condition which leads us to hope that even after the stage of suppuration, as marked in the last case, has commenced, absorption sometimes goes on, and the fearful mischief subsides.

CASE, LXXIX.

In April 1825 I was requested by a very intelligent practitioner to see a patient in the neighbourhood of the Tower.—I found a middle-aged woman of a full, corpulent, and lax habit, who had been attacked eleven days previously, after circumstances of considerable mental anxiety, with rigors, headache, and all the symptoms of fever, attended from an early period with relaxation of the bowels. She had been bled in the commencement of the attack, and such other means employed as the successive symptoms seemed to demand. At the time I first saw her, her countenance was sunk and her complexion dingy; her tongue was brown and tremulous, and sordes was collecting on her teeth: her pulse frequent and weak. The purging still continued, but there was little or no pain on pressure of the abdomen: during the day her intellects were quite clear, but she wandered a good deal in the night. I recommended that she should be put on the use of the Hydrargyrum cum Creta and the Compound Chalk Powder; that she should take a slight infusion of Angustura, and should be supplied with a moderate quantity of the mildest nourishment from time to time. The following day she appeared improved: her aspect was revived, and the purging was a little moderated. She was therefore desired to continue on the same plan. The next day I found that the irritation of the bowels had returned; that the countenance was not nearly so good, and that her mind wandered more. In the evening of that day, (which was about the thirteenth day of the fever,) a sudden rigor came on, with such excessive prostration of strength, cold perspiration, and loss of pulse, that

her medical attendant when called, did not think she would have survived many minutes. She rallied however, complaining of pain in the right side of the abdomen, with some tenderness on pressure. The next morning, when I saw her, she was much recovered from the alarming state in which she had been on the previous evening; but she was evidently much altered for the worse since my last visit: she lay more prostrate; her pulse very quick and weak; considerable tumefaction of the abdomen had come on, and great tenderness was experienced on pressure, chiefly in the right iliac region. From the symptoms we concluded that a rupture of the intestines had taken place. In the evening she died. I was sorry that circumstances prevented my being present at the examination, but from the medical man with whom I had attended, I learnt that the internal surface of the ilium was studded with ulcers; and that one of these, near to the termination of that intestine, had ulcerated through all the coats into the cavity of the abdomen, producing general inflammation of the peritoneum, but more especially near to the small ulcerated opening.

The ten fatal cases which I have thus detailed will, I believe, be found to present nearly all the phenomena which mark the successive stages of intestinal ulceration in fever; and I have endeavoured to arrange them as nearly as possible according to the degree of progress which the disease had made.

CASES

ILLUSTRATIVE OF THE TREATMENT TO BE EMPLOYED WHEN THE MUCOUS
MEMBRANE OF THE INTESTINES IS DISEASED IN FEVER.

IN the foregoing cases I have endeavoured to trace the disease of the mucous membrane of the intestines in fever, from its earliest stage of irritation, till it terminates either in the actual extension of the ulceration into the peritoneal cavity, or in the restoration of the ulcerated and sloughing parts. And I shall now proceed to state a few such cases as appear best suited to illustrate my views of the treatment to be adopted, so that we may either prevent the formation of ulcers by allaying the irritation early in its progress, or after ulceration has taken place, put a stop to its extension and aid the process of repair.

CASE LXXX.

MARY ELLIS was admitted into Guy's Hospital, under my care, October the 4th, 1826, labouring under fever. She had been attacked with pain in the head and back, and other febrile symptoms eleven days before, and had at the time of her admission the complete aspect of fever, lying on her bed quite overcome, suffering occasional heats and chills. Tongue white. Appetite gone. Pulse 120. It was reported to us that her bowels had been open.—She was ordered low diet.

Sumat Pulver. Rhei cum Hydrarg. Submuriat. gr. x statim,
et Misturæ Salinæ fʒjss, cum Vini Ipecac. ʒxx ter quotidie.

5th. Three stools during the night. No particular change. Pulse 100, moderate. Tongue furred.

Repetatur Mistura.

6th. Four loose yellow dejections. Pulse 120. Tongue red at the point.

R Pulver. Ipecacuanhæ gr. fs,

Pulver. Cretæ comp. gr. vj;

Fiat pulvis ter quotidie sumendus.

7th. Bowels still irritated.

Repetatur Pulvis.

9th. Skin hot: pulse quick.

Repetatur Pulvis; et adhibeatur Pediluvium vespere.

13th. Still considerable febrile action, and the bowels are much disturbed. Motions yellow and watery.

R Hydrarg. Submuriat. gr. fs,
Sodæ Subcarbonatis exsiccata gr. ijs,
Pulver. Cretæ comp. gr. v; Misce,
Fiat pulvis omni nocte sumendus.
Repetatur Mistura Salina ut antea.

16th. Motions much improved. Pulse 120. Tongue nearly clean. General aspect greatly better.

Repetantur Medicamenta.

20th. Tongue a little furred. Pulse 120, weak.—To have a pint of Beef-tea daily.

Habeat Olei Ricini fʒiij cras mane.
Repetatur pulvis.

23rd. Tongue clean. Bowels regular: debility alone remains. She was ordered to have the Infusion of Cascarella three times a day, and to continue her Powder every night. She was allowed a mutton-chop for her dinner. She continued the Powder till the 3rd of November, remained a week afterwards to recruit her strength, and was dismissed cured.

In this case the irritable state of the bowels is very obvious; for either they were too much relaxed at the time of her admission, of which it was very difficult to judge from the imperfect account we received; or one dose, containing only a grain and a half of Calomel and seven grains of Rhubarb, gave rise to an irritation which continued for several days, with many of the characters which accompany the diseased state of the mucous membrane; and this irritation afterwards subsided under the use of Ipecacuanha and very small doses of Mercury.

CASE LXXXI.

RICHARD SMITH, æt. 16, was admitted into Guy's Hospital, under my care, October 28th, 1826. Three days before, he had been attacked suddenly in the afternoon with headache, succeeded by pain all over him, and general heat. The following morning he rose, but became much worse; his head aching violently, his extremities cold, and he has since been completely confined to bed. At the time of his admission his face was flushed; conjunctiva vascular; tongue white; skin hot; pulse 120, with occasional intermissions; respiration hurried.—To have low diet.

Sumat Pulv. Rhei cum Hydrarg. Submuriat. gr. xv statim.

Mist. Salin. cum Vini Ipecac. ℥ xv, sextis horis.

Adhibeatur Lavatio tepida urgenti calore.

26th. Powder acted rather powerfully. Pain in head continues. Countenance flushed. Eyes suffused. Tongue loaded. Pulse 104, sharp.

Abtradatur capillitium, et postea applicetur Embrocatio communis capiti.

Admoveantur Hirudines octo temporibus. Rep. Mistura.

27th. Leeches bled freely. The heat did not lead the nurse to use the sponge above once or twice. Countenance improved, less flushed. Head much relieved. Pulse 112, more natural. Tongue cleaning at the edges. One loose stool, with some pain.

Repetatur Mistura.

30th. Nights disturbed. Considerable febrile anxiety. Skin hot. Pulse 110. Tongue red at the edges, moist, with brownish fur at the base. Bowels relaxed, without pain. Tepid washing seldom used.

℞ Hydr. cum Creta gr. ij, Pulv. Cretæ comp. gr. x, Ipec. gr. fs, fiat pulvis ter die sumendus.

Repetatur Mistura.

31st. Some tenderness on pretty heavy pressure of abdomen. Tongue very red, and furred. Pulse more quiet.

Applicentur Hirudines octo Abdomini, et foveatur Abdomen postea.

Repetantur Medicamenta.

Nov. 1st. Leeches bled profusely. Tenderness of abdomen much relieved.

3rd. Three or four stools each day, loose. Pulse 120, rather weak. Tongue much improved; still red at the edges, and furred at the back part. Countenance occasionally flushed.

6th. Improving. No pain in the bowels on pressure. Tongue still a little red.

10th. Tongue still remains reddish at the tip, and furred. One stool in the last twenty-four hours, figured.—To have Beef-tea and Arrow-root.

Repetatur Pulvis.

Ol. Ricini f̄ijj eras mane si opus fuerit.

13th. He is sitting up. Four stools in the twenty-four hours. Tongue still a little furred; but he makes no complaint.

℞ Hydrarg. Submuriat gr. ʒ,

Sodæ Subcarbonatis exsicc. gr. jfs.

Pulv. Cretæ comp. gr. iij; Misce

Fiat pulvis ter quotidie sumendus.

Sumat Infusi Cascariellæ f̄j ter quotidie.

17th. Going on well. To have a Mutton-chop.

Contin. Pulvis omni nocte.

He was now completely convalescent.

In this case we have another instance of the irritable state of the bowels in fever, where the relaxed stools were accompanied by the red tongue and tenderness of the abdomen, and all yielding to remedies which acted on the secretions of the mucous membrane of the part.

CASE LXXXII.

EDWARD STEVENS was admitted, under my care, into Guy's Hospital, Oct. 25th, 1826. He stated that he first felt ill as long as six weeks before, from exposure to wet and cold in his employment as a bricklayer; but he became much worse about a fortnight ago, with all the symptoms of fever, and was then confined to his bed. About a week after that, sickness at the stomach came on, and occasional purging. He had taken no medicine whatever. At the time of admission he had all the aspect of fever well marked. His tongue loaded: pulse 120: slight irregular convulsive motions of the muscles of the face. Complained of headache and of a pain in the chest, with some cough. Had passed two loose motions in the morning. Some tenderness at the pit of the stomach.—To have low diet.

Abradatur Capillitium, et applicetur Embrocatio communis capiti.

Applicentur Cucurb. cruentæ margin. costarum et detrahatur sanguis ad f $\frac{1}{3}$ x.

Habeat Pulv. Rhei cum Cal. gr. x statim.

26th. Restless night, disturbed by cough. Pulse 120, weaker. Tongue moister at the edges, but coated with a thick fur at the back part. Head relieved: a general tenderness over the abdomen. Expectoration, mucus with one or two small specks of florid blood. Dejections loose, feculent.

Habeat Mist. Salinam cum Vini Ipecac. \mathfrak{m} xx.

R Hydrarg. cum Creta gr. iij,

Pulver. Ipecac. gr. fs,

Pulver. Cretæ comp. gr. x; Misce,

Fiat pulvis ter quotidie sumendus.

Foveatur abdomen.

27th. A quiet night. Three or four stools of the same character. Abdomen tender on pretty hard pressure. Some griping and sudden calls to stool. Pulse 104. Respiration 30. Tongue furred at the back part, dry and cracked towards the tip. Head

relieved, and he is much more quiet and tranquil in his manner. Cough troublesome, exciting to efforts to vomit.

Repetantur Medicamenta.

28th. Complains of some soreness of throat. Gums very slightly affected by the Mercury.

Repetatur Mistura.

30th. Slept well. Pulse 100, weak. Three dejections in the night, still loose. Tongue moist at the edges, cracked in the centre.

Sumat Pulv. Cretæ comp. gr. x, et Pulv. Ipec. gr. j, ter die.

Repetatur Mistura.

November 3rd. Has gone on improving. Countenance placid and pale. Pulse 96, weak. Skin cool. Urine high coloured. Bowels continue relaxed.—To have Beef-tea and Arrow-root.

Repetantur Medicamenta.

5th. One loose stool during last night: slight tenderness of abdomen. Tongue a little dry towards the centre. Pulse 88.

Applicetur Cataplasma Sinapis Scrobiculo Cordis; et Repetantur Medicamenta.

6th. Lying on his side in a very comfortable and natural posture, with his knees somewhat drawn up: his improvement very marked. Tongue nearly natural. Pulse 84. Bowels regular: one stool.—To have a Mutton-chop.

Repetantur Medicamenta.

8th. Convalescent.

In this case again, all the applications and remedies had immediate reference to the state of the abdomen; and the progress towards cure and the removal of the febrile symptoms kept pace exactly with the relief afforded to the intestinal irritation.

CASE LXXXIII.

MARGARET MACGREGOR, about 28 years of age, was admitted into Guy's Hospital, under my care, December 6th, 1826, labouring under the well marked symptoms of continued fever: she was in a state of considerable apparent prostration, with a countenance strongly expressive of the disease. She moaned constantly, complained of general uneasiness, and of a feeling of dulness in her head with noises in her ears. Respiration laboured. Pulse 100. Skin freely perspirable. Tongue moist, but

morbidly red. Bowels relaxed; and pressure on the upper part of the abdomen gave pain. It appeared that for three or four weeks she had complained of flying pains and chills, and that five days before her admission she had first become seriously ill and confined to her bed, being seized with rigors followed by violent pain in the head: she had been bled; a blister applied to the nape of the neck, and leeches to the temples.—To have low diet.

Applicentur Hirudines quatuordecim scrobiculo Cordis.

Habeat Hydrargyri cum Creta gr. v ter quotidie,

et Misturam Salinam cum Vini Ipecacuanhæ ℥ xv, sexta quaque hora.

7th. The leeches bled freely: she has passed five copious and feculent bilious dejections. Pulse 96. The perspiration in which she was at the time of admission subsided about two hours afterwards. Tongue morbidly red, but her countenance improved. Pupils a good deal dilated: she complains of great dulness in her head.

Repetantur Medicamenta.

8th. Passed an indifferent night, and appears much oppressed. Tongue less red, but inclined to grow dry. Pulse 84, of tolerable strength. Some tenderness of the abdomen; and she lies on her back.

Applicentur Hirudines duodecim Abdomini, et foveatur Abdomen postea.

Adde Ipecacuanhæ gr. j, singulis dosibus pulveris.

Repetatur Mistura.

9th. The leeches bled well: three stools. She is lying on her left side; her aspect is improved. Tongue become more white in the centre. Pulse 92. Skin moist. Respiration 32. She is very deaf.

10th. Two loose dejections of ill-digested matter. Countenance improved. Tongue much improved; has nearly lost its white fur: she lies generally on her back; but denies having any pain, and considerable pressure on the abdomen gives none: experiences occasional nausea. Skin perspirable.

Repetantur Medicamenta.

11th. Three copious feculent stools, of a bright yellow colour. Pulse 100: much febrile dulness, but no headache. Respiration 40; expresses herself tired of lying in bed, but seems to lie easily on her side.

Repetantur Medicamenta.

12th. Has passed a good night: two or three large green feculent dejections. She is in a free perspiration. Pulse 84. Tongue moist. Countenance improved.

13th. Four dejections, with much feculent matter. Tongue still rather red.

Habeat Hydrargyri cum Creta gr. v omni nocte.

Repetatur Mistura.

14th. She is daily improving in her general aspect and feeling. Two copious dejections. Tongue a little furred at the base. Pulse 84. Respiration 32.

Repetantur Medicamenta.

15th. *Habeat Olei Ricini ꝑij, cum Tinct. Opii ʒij.*

16th. Two large feculent dejections, abundant in bile. Pulse 82. Skin moist. Tongue still a little red at the edges.

17th. Two feculent stools. Pulse 94. Tongue more natural.

Habeat Olei Ricini ꝑij, cum Tincturæ Opii ʒij, cras mane.

Repetantur Pulvis et Mistura.

18th. Two stools from the Castor Oil. Pulse 84, moderate.

19th. Pulse 84 : two stools ; a feeble and dull mode of expression.—To have Arrow-root and a pint of Beef-tea daily.

Repetantur Medicamenta.

20th. Bowels act well.

26th. Sitting up quite convalescent.

November 3rd. To have animal food.

The excellent effects of leeches on the abdomen, and of regular and full action maintained by the mildest means, where there is reason to suppose that the internal coat of the intestine is suffering, cannot be better illustrated than in this instance.

CASE LXXXIV.

MARY PALMER, a servant-maid, was admitted into Guy's Hospital, under my care, December 7th, 1825. About a fortnight before admission she was exposed to cold and wet during the period of the catamenia : this produced suppression, and was followed by symptoms of fever, headache, and alternate chills and heats ; her bowels from the first much relaxed. At the time of my first visit the countenance was flushed, and the eyes suffused. There was pain in the head, and deafness. Skin hot and dry. Pain in the right hypochondrium increased on pressure. Tongue bright red, and disposed to be dry, the papillæ towards the root much enlarged. Tonsils slightly swollen, and fauces red and turgid ; but no soreness of the throat. Thirst. Total loss of appetite. Some dry cough, without pain in the chest or difficulty of inspiration. Pulse 100, rather small and weak.

*Habeat Pulver. Rhei cum Calom. ʒj, statim,
et Misturam Salinam pro re nata.*

8th. Passed a bad night. Cheeks flushed. Skin hot and dry: four lax thin dejections. Urine scanty, with much sediment. Tongue red, and occasionally dry. Lips parched. Pain in head, and cough, less.

Repetatur Mistura.

9th. Passed a good night. Very little headache. Slight cough. Pulse 100. Skin dry and hot. Seven lax dejections. Tongue dry in the centre, moist at the edges. Much thirst.

R Confectionis Opii gr. v,
Hydrarg. cum Cret. gr. ij;
Fiat pilula ter quotidie sumenda.
Repetatur Mistura pro re nata.

10th. Countenance flushed. Skin hot. Pulse 100. Seven loose feculent dejections. Tongue moist, but red. Complains of some sore-throat. The tonsils, velum, and fauces red, but not much swollen.

Adhibeatur Gargarisma Acidi Muriatici.
Repetantur Medicamenta.

12th. Passed a good night. Skin dry. Pulse 100. Seven or eight lax dejections, of a less yellow colour. No tenderness of abdomen. Tongue moister; but the gargle abrades her tongue and fauces.

Adhibeatur Mel Boracis, et Repetantur Pilula et Mistura.

13th. Skin dry. Pulse 100. Slight cough still, and headache. Five dejections. Tongue moist.

14th. Sleeps tolerably. Skin natural. Pulse 98. Tongue moist. Five feculent loose dejections, of healthy appearance.

15th. No pain. Four dejections. Tongue moist. Pulse 96.

16th. Countenance much more clear. Tongue cleaning. Three dejections. Skin natural. Pulse 94, soft.

19th. Feels quite well. Bowels open: no pain. Tongue nearly natural. Pulse 96.

20th. Bowels open. Pulse 88, rather weak. Tongue natural. She was now quite convalescent; but the pills were continued for about a week longer, when very slight indications of mercurial action were perceived on the gums; and her diet having been gradually improved, some gentle tonic was prescribed.

CASE LXXXV.

I WAS called upon to attend a gentleman who had been ill a fortnight in fever after exposure to cold while heated: the symptoms mild, but unequivocal. Hurried manner; depressed aspect; headache; quick, rather weak pulse; white and clammy tongue

with a red stripe down the centre and at the tip. His bowels were constantly relaxed with slight griping, without tenderness on pressure: yellow watery and gritty dejections. My whole attention was directed to the state of the bowels. After one or two visits, I was led by a frequent dry cough to examine the fauces, and I found the whole lining membrane in an erythematous state, very like that observed in the case of PALMER.—The cure of this patient was completely, though slowly, effected by the combination of Hydrarg. cum Creta and Compound Chalk Powder, with the occasional addition of a few grains of Compound Ipecacuanha Powder; and towards the convalescence, occasional doses of three drachms of Castor Oil with three drops of Laudanum; and not till every symptom of intestinal irritation had subsided, were tonics in their milder forms administered.

In these two cases, we have fresh examples of the mildest form of fever attended with general irritation of the mucous membrane lining the intestines, betrayed by the state of the membrane in the fauces, and marked by the condition of the tongue, and the frequent discharge of watery dejections. I have no doubt that even in these milder forms of fever, there is constant danger of the ulcerative process being set up in the intestines, and that actual ulceration often does take place; but the original febrile impression not being severe, the powers of the constitution are sufficient, by the assistance of mild remedies, to repair the mischief, if we carefully avoid adding any unnecessary irritation, either by improper food, by irritating laxatives, or by the too speedy use of tonics: and it certainly appears to me, that the mildest mercurial influence which it is possible to induce, is the remedy on which we may best confide.

CASE LXXXVI.

MARY WILCOCK, æt. 23, was admitted into Guy's Hospital, under my care, January 31st, 1827, labouring under well marked fever. She had lain-in three months before with her first child, and had undergone considerable hardships since that time: for the last six weeks she had suffered from cold and cough; but eleven days before her admission had been seized with pain in her back and limbs followed by delirium, and had since been confined to her bed. The aspect of febrile depression was very strongly marked: her countenance was slightly flushed; her teeth and lips covered with sordes; tongue brown in the centre, but inclined to be moist at the edges. She lay generally on her back with her legs drawn up. She complained of thirst and feeling faint. Skin hot. Pulse 130, rather sharp. Considerable tenderness of the abdomen, which was large but soft. Bowels very relaxed. Six liquid dejections during the twenty-four

hours, and the stools occasionally passed in bed. Respiration 40, with a frequent plaintive moan; and she complained much of cough.

It appeared to me that in this case there was but one line to pursue, to guard against the mischief so obviously taking place in the internal lining of the intestines.

Applicentur Hirudines quatuordecim scrobiculo cordis,
 R Hydrarg. cum Creta gr. iij,
 Pulv. Ipecac. gr. fs,
 Pulv. Cretæ comp. gr. x;
 Fiat pulvis ter quotidie sumendus.

February 1st. Passed a very restless night. Expression of countenance vacant: a constant tremulous motion of the hands. Pulse rapid and indistinct. Several loose dejections, watery with yellow gritty feculent matter; the abdomen tender on pressure, particularly about the head of the colon. Tongue cleaner, but glassy. Cough troublesome. Expectoration viscid. Respiration 38.

Applicentur Hirudines decem regioni Iliacæ dextræ.
 Repetatur Pulvis.

2nd. Another very restless night, often trying to get out of bed. Tongue has lost its fur, but is cracked and ulcerated in the centre: many feculent liquid dejections. Abdomen less tender. Cough very troublesome. Pulse 120. Respiration 44.

Add. Pulv. Ipecac. comp. gr. ij singul. pulv.
 Foveatur abdomen, et Applicetur postea Cataplasma Lini.

3rd. Passed a very bad night. Face much flushed. Tongue clean and moist, rather purple. Pulse 120. Skin hot. Great thirst. Bowels much relaxed. Cough rather less.

Injiciatur Enema Amyli cum Tincturæ Opii ʒxxx hora somni.
 Repetantur Medicamenta.

4th. Repetatur Enema hora somni.

5th. The cough prevents her sleeping. Countenance much flushed. Some deafness. Pulse 120. Several dejections. Still experiences pain on pressure of the abdomen.

Applicentur Hirudines octodecim abdomini.
 R Hydrargyr. Submuriat. gr. j,
 Opii gr. j;
 Fiat pilula sexta quaque hora sumenda.
 Enema commune vespere.

6th. Better night. Some relief from the leeches. Countenance still flushed. Tongue dry, and inclined to be brown and rough in the centre. Abdomen still tender. Several liquid dejections. Pulse 120, and indistinct.

Sumat Hydrarg. Submuriat. gr. j. Opii gr. fs octava quaque hora.

7th. Passed a very bad night, continually talking. Cough troublesome. Right cheek flushed. Deafness. Great thirst. Tongue not so clean, rather rough down the centre. Many loose feculent dejections. Some pain on pressure on the right iliac region and left hypochondrium. Pulse 128.

Habeat Mist. Mucilaginosæ f3j, cum Tinct. Opii ʒiij et Vini Ipecac. ʒx quarta quaque hora.

Applicetur Cataplasma Sinapis Scrobiculo Cordis.

Omittantur Pilulæ.

8th. Rather better night. Tongue clean and moist. Complains of pain in the back of the neck. Several feculent dejections. Countenance flushed. Pulse 116. Skin hot. Respiration 40. Cough less frequent.

Repetatur Mistura.

9th. Restless night, with much talking; in other respects the same.

10th. Again a restless night. Tongue clean and moist. Three watery dejections in the night: some inconvenience on pressure of abdomen. Pulse 112.

R Hydrarg. cum Creta gr. ij,

Confect. Opii gr. x; fiant Pilulæ ter die sumendæ.

Habeat Misturam salinam.

11th. Tongue clean, rather inclined to be dry. Several liquid but feculent dejections. Pulse 120, weak. Complains much of cough.

Applicetur Cataplasma Lini Abdomini.

12th. Better night. Tongue moist and clean. Bowels relaxed, with frequent desire to go to stool. Pulse 120.

Habeat Mist. Cretæ f3ss post singulas sedes liquidas.

Repetantur Pilulæ; Omitt. Mistura.

13th. Countenance improved. Tongue clean and moist. Very slight soreness of mouth. Pulse 108. Two or three loose watery dejections, not quite so natural as yesterday: tenderness on pressure of left hypochondrium.

Add. Pulv. Ipecacuanhæ gr. fs singul. dos. pilularum.

Repetantur Medicamenta.

14th. Countenance rather flushed. Tongue clean and moist. Complains that her mouth is sore. Several liquid dejections in the night. Pain over whole epigastrium. Pulse 104. Much cough.

Applicentur Hirudines duodecim abdomini.

Repetantur Pilulæ.

15th. A good night. Face less flushed. Tongue clean and moist. Pulse 108. No pain. Several watery dejections, but with feculent matter.

Repetantur Pilulæ.

16th. Countenance improved. Tongue clean and moist. Pulse 104. Two or three dejections much improved in character.

17th. Feels that she is better. Tongue clean and moist. Mouth not sore. Pulse 104. Skin natural. Three feculent dejections still much improved. Cough very troublesome, disturbing her rest.

Linctus Opiatus pro re nata.
Repetantur Pilulæ.

19th. Feels better. Two or three dejections. Pulse 100. Cough worse.

Applicetur Empl. Cantharidis sterno.
Repetantur Pilulæ.

20th. Has been sitting-up in bed. Feels faint and weak. Tongue clean and moist. Cough still very troublesome. Two or three natural dejections.—From this time the cough was the only source of complaint, and this entirely yielded in the course of about a fortnight as she recovered her strength, by the use of some simple forms of remedy in which the Compound Tincture of Camphor and Ipecacuanha Wine were combined.

I have been thus particular in detailing this case, because it is one in which the seat of the injury arising in the course of fever appeared well marked. The indication according to the view I took of the case was evident, and the treatment simple and successful. The progress of the disease, from the truly alarming state in which it showed itself at the time of admission to the perfect recovery, was marked most distinctly by the changes which took place in the alvine evacuations, the decreasing tenderness of the abdomen, and the condition of the tongue: nor have I the slightest doubt in my own mind, that either actual ulceration or a state very nearly approaching to it, existed in the mucous follicles of the intestines at the time this patient was admitted.

CASE LXXXVII.

MARY ANN PITTS, æt. 16, was admitted November 16th, 1825, into Guy's Hospital, under my care. She had been seized with shivering and chilliness ten days before; and two days after the first attack headache and other febrile symptoms became severe. She attributes her illness to attending upon her mother who had fever, and had since died in the Fever Hospital. When first visited, she was lying in a tolerably easy posture. Countenance flushed and anxious: eyes glassy. Temperature of the body much increased. Complained of severe pain in the head, but her mind was clear; she had neither deafness nor intolerance of light. Moaned a good deal, which she said

was on account of a feeling of general uneasiness and soreness. She had pain in the abdomen and at the pit of the stomach, in both of which there was great tenderness on pressure. Had experienced nausea, but no vomiting. Bowels reported to be open. Tongue with brownish fur in the centre and root; red and dry at the apex and edges. Pulse 104, of moderate strength. She had taken some medicine, and leeches had been applied previously to admission.

Applicetur Embrocatio communis capiti raso.

Habeat Mist. Efferves. sexta quaque hora.

Hydrarg. cum Cret. gr. v statim, et Repetantur vespere.

17th. Slept pretty well. Posture natural and easy. Much febrile depression in her aspect. Countenance flushed. Heat considerable; but skin moist, and she has perspired in the night. Headache relieved. Pain in the abdomen and tenderness less. Three dejections, loose, watery, of a yellow green colour, passed without pain. Tongue cleaner and more moist. Neither nausea nor sickness. Pulse 106 to 110, of tolerable strength.

Repetatur Mistura.

R Hydrarg. cum Cret. gr. iij.

Pulv. Cretæ comp. gr. x; fiat pulvis bis die sumendus.

18th. Passed a good night. Gentle perspiration. One dejection of the same character. Pain of abdomen gone. Tongue cleaner. Pulse 108.

Repetantur Medicamenta.

19th. Headache better. No pain or tenderness in the abdomen. Two dejections. Tongue moist and nearly clean. Pulse 80, moderate strength. Skin cooler. Complaints of weakness.

Repetantur Medicamenta.

20th. A good night. Skin cool. Tongue moist and clean. One watery dejection. Pulse 95.

21st. A good night. Gentle perspiration. Tongue moist, slightly furred. No dejection. Pulse 88.

22nd. Improves. Pulse 80. Tongue moist and cleaner. One figured dejection.

Habeat Olei Ricini fʒiij statim, et Repetantur Medicamenta.

23rd. Tongue rather whiter, quite moist. Pulse 96. Three copious dejections. Appetite improved.

Repetatur Pulvis.

25th. Tongue still rather white. One copious figured dejection. Pulse 88.

Repetatur Pulvis.

26th. Tongue white. One figured dejection. Pulse 108. Feels in every respect better.

29th. Quite convalescent.

CASE LXXXVIII.

CHARLOTTE PILCHER, æt. 19, a servant, of strong plethoric habit, was admitted into Guy's Hospital, under my care, November 29th, 1825. About a fortnight before admission she was first taken ill, having contracted a cold as she supposed by washing. She first experienced stiff-neck and pain in the head for a few days, then occasional rigors, and nine days before admission a most severe shivering fit, which was followed by heat, and from that time she was completely confined to her bed. When seen a short time after admission, her countenance was flushed, lips parched, tongue dry and red on the anterior part, with a slight fur at the back. She complained of thirst, and a bad taste in her mouth. No appetite. Great tenderness, extending from the pit of the stomach to the umbilicus, and also in the right iliac region, increased on pressure. Abdomen rather full. Neither sickness nor nausea. Bowels relaxed. Within a few hours of admission passed three loose yellow gritty dejections, with a good deal of griping previous to each motion. Great pain in the head, with giddiness and a frequent tendency to wander, particularly on waking. Light affected her eyes. Hearing dull. Occasional slight pains in the chest, with very little cough: no expectoration. Deep inspiration gave no pain. Respiration 34, easy. Pulse 120, of moderate strength. Skin hot, with slight perspiration.

Abradatur Capillitium, et Applicetur Embrocatio communis capiti.

R Hydrarg. Submuriat. gr. j,

Extracti Hyoscyami gr. ij; fiat Pilula sexta quaque hora sumenda.

Sumat Misturam salin. cum dimidia quantitate Succi Limonis.

Admoveatur Fodus papaveris abdomini.

30th. Pretty good night. Posture natural. Countenance flushed. No pain in abdomen when she lies quiet, but still tender on pressure. Tongue red, dry, and chapped in the centre. Much thirst. Four loose dejections, of the same character as before. No headache nor wandering. Pulse 112. Respiration 28. Skin hot, but moist.

Repetantur Medicamenta.

Dec. 1st. Bad night, with slight wandering. Countenance occasionally flushed with circumscribed red on the cheek. Abdomen very tender. Complaints of thirst and soreness of mouth and tongue. Lips parched. Tongue moister at the edges, red, and dry in the centre. Four loose unnatural curdly dejections, passed with pain. Headache considerable. Cough more troublesome, giving some pain in the chest, as does a deep inspiration. Pulse 108, rather weak. Respiration 28. Legs and feet cold.

Repetatur Pilul. bis quotidie.

Repetantur Fodus Papaveris, Embrocatio, et Mistura.

2nd. Little sleep, but a quiet night. Position natural and easy, with knees drawn

up. Countenance improving. Tenderness and pain of abdomen increased, with some degree of fulness and tension. Four loose dejections, with much pain previous to each; more green, less curdly matter. Tongue white at the sides, red at the apex, deeply chapped transversely in the centre. Some headache. Cough increased. No pain on deep inspiration. Expectoration, frothy mucus with a little blood, probably from the nose, which had bled a few drops. Pulse 100 to 108. Partial chills.

Injiciatur Enema ex Decocto Avenæ statim, et Repetatur vespere.

Repetatur Fots Papav. Abdomini bis terve quotidie.

R Hydrarg. cum Creta gr. iij;

Pulv. Ipecac. gr. j;

Fiat pulvis ter die sumendus.

Repetatur Mistura.

3rd. Tranquil night. No sleep. Appearance improved. Posture easy. Pain in abdomen less. Tenderness much diminished; less fullness. Five loose watery and curdly dejections. Tongue white at the sides, red and dry at the apex and the centre. Cough less; expectoration quite free from blood. Respiration 28, easy. Pulse 120.

Repetantur Medicamenta.

4th. Little sleep. Abdomen free from pain, except on pressure. Two dejections, improved. Tongue white, and moist at the edges; red, chapped, and dry at the centre and apex. Cough less. Pulse 108. Respiration 24. Skin moist. Feet cold in the night, relieved by putting them in warm water.

Repetantur Medicamenta.

5th. Better night; is lying easily on the right side, with her knees a little drawn up. Abdomen much less full; still slightly tender on pressure. Three dejections yellow, more mixed. Urine high coloured, with slight sediment. Tongue moist at edges. No pain or disturbance of head. Cough slight. Respiration 28. Pulse 105, and weak. Some inflammation and discharge from the vagina.

Repetantur Medicamenta, et adhibeatur Lotio nigra vaginæ.

6th. Very good night with quiet sleep. Abdomen still very tender on pressure. One loose feculent yellow dejection, not so natural. Urine turbid. Tongue cleaner and moister, particularly about the edges and tip. Cough and expectoration nearly gone. Respiration 28. Pulse 120.

Applicetur Cataplasma Sinapis Abdomini statim et vespere.

Injiciatur Enema ex Olei Ricini f℥j vespere.

Repetantur Medicamenta.

7th. Little sleep; feels much better. Tenderness of abdomen less. Two dejections. Tongue dry in the centre, white and moist at the edges. Urine high coloured and

turbid. No headache. Pain in chest and cough quite gone. Respiration 28. Pulse 100.

8th. One lax dejection. Tongue with brown fur in the middle, moist and white at the edges. Urine turbid, and moderate in quantity. Pulse from 80 to 100. Complains of general soreness.

9th. Slept pretty well; seems comfortable. One copious feculent dejection, very much improved. Abdomen still tender. Tongue cleaning at the apex and sides; other parts covered with yellowish fur. Pulse 104.

10th. Had a good night. Countenance much improved. Abdomen still tender, though neither full nor tense. Three dejections, greatly improved. Tongue becoming clean and moist over a greater extent. Pulse 96. Skin cool.

12th. Slept well; appearance much improved. Still some tenderness of the abdomen, which is rather tense and full. Three watery dejections. Tongue moist, and cleaning gradually from the point.

13th. A good night; appearance much improved. Very slight pain on pressure of abdomen. Tongue clean and moist, except at the back part. One natural loose dejection.

14th. A good night. Abdomen soft, scarcely tender on pressure. Two dejections of solid feculent matter, and healthy colour. Tongue still more clean than yesterday. Pulse 100. Skin natural.

15th. No tenderness of abdomen. Tongue perfectly clean. One natural dejection.

16th. Daily improving; no dejection; no pain. Appetite good.

Habeat Olei Ricini fʒij cum Tincturæ Opii ʒiij cras mane si opus fuerit.

19th. Feels quite well. One dejection formed and natural. Tongue natural. Urine natural in appearance and quantity. Pulse 78.

Repetatur Pulv. semel quotidie.

To have a mutton-chop.

22nd. Decidedly convalescent.

In this case the sole object of treatment after guarding against cerebral irritation, was to regulate the state of the bowels. There seems no reason whatever to doubt that the mucous membrane of the small intestines, and probably of the cæcum, judging from the tenderness in the right iliac region and the pain in passing the motions, was in a state of irritation, inflammation, and possibly of ulceration. From the reports of the first four days, it would appear that the Calomel even when guarded by Hyoscyamus, was too irritating for the bowels: and after the combination of Hydrarg. cum Creta and Ipecacuanha was adopted, although the state of the bowels varied occasionally, yet the progress was on the whole uninterruptedly

satisfactory; nor was it ever necessary to change the remedy till the cure was complete. In this case the decline of the febrile symptoms seemed to keep exact pace with the amendment in the condition of the abdomen, marked by the three symptoms, to which the attention of the practitioner should be directed constantly and minutely in fever, where the mucous membrane of the intestines is greatly implicated; namely, the changes in the tongue, the alteration in the character of the dejections, and the degree of tenderness of the abdomen. The tongue with red edges, more particularly when dry, almost universally indicates great irritation in the mucous membrane of the intestines; and when combined with loose yellow gritty dejections, I think generally bespeaks the existence of ulceration, or a state very nearly approaching to it.

CASE LXXXIX.

BENJAMIN BENNETT was admitted, November 23rd, 1825, into Guy's Hospital, under my care. He was a sailor, about 30 years of age, employed in a Portsmouth trader. Several weeks previously, after being very much exposed to the inclemencies of the weather, he became ill, and was bled twice, about $\frac{3}{4}$ xvj each time. He returned to work; and he arrived in his vessel about three weeks ago, but was then quite laid up with symptoms such as at present, which are those of decided fever. He has now some cough, not very severe. Mouth and tongue very clammy, with brown fur. Pulse 100. Respiration 24. Voice hoarse. Bowels appear rather loaded, though it is believed they have been relaxed.

Admoveatur Empl. Cantharidis ampl. Sterno. Habeat Julepi Mel. Acet. $\frac{f\text{ss}}$
cum Vini Ipecac. mxx , sexta quaque hora. Sumat Olei Ricini $\frac{f\text{ss}}$ statim.

24th. The Castor Oil has opened his bowels.

Habeat Extracti Conii gr. v, Ipecac. gr. j, ter quotidie; et Repetatur Mistura.

Dec. 2nd. Pulse 120. Very hoarse. Much purged. Tongue dry and brown.

Sumat Hydrarg. cum Cret. gr. ij, Pulv. Cretæ comp. gr. x, bis die.

Linctus Opiat. pro re nata.

Admoveatur Empl. Cantharidis ampl. Sterno.

5th. Much febrile restlessness and heat of skin.

R Antimonii Tartarizat. gr. $\frac{1}{4}$,

Opii Contriti gr. $\frac{1}{2}$,

Hydrarg. Submuriat. gr. ij,

Syrupi quantum sufficiat ut fiat Pilula statim sumenda.

6th. Hoarse. Two loose motions. Tongue dry.

Habeat Extracti Conii gr. v cum Ipecac. j, ter die.
Repetatur Mistura.

7th. Habeat Misturam salin. cum Vini Ipecac. ʒxx.
Rep. Pil. Conii cum Ipecac.

8th. Pulse 108, weak. Skin dry. Tongue brown in the centre, and dry. Countenance anxious. Abdomen rather tender. Three stools of dark chocolate colour. A good deal sunk.—He was ordered to have six ounces of wine beat up with eggs every day.

R Infus. Angusturæ fʒjss cum Conf. Aromat. gr. xv ter die.

9th. Bowels less disturbed. Motions more natural.

Repetantur Pil. Conii cum Ipecac. et Infusum.

10th. Stools much improved. Skin hot. He rambles in the night.

14th. Adde Pulv. Ipecac. gr. j, sing. dos. Pilul.

15th. Habeat Infus. Serpentarii fʒjss cum Ammon. Subcarbon. gr. v. quarta quaque hora. Repetatur Pilula.

16th. Countenance improved. Tongue less dry, and furred. Very hoarse. Three loose stools.

17th. Respiration 32. Pulse 128. Tongue dry; lies on left side generally. Voice hoarse. Three or four feculent dejections. Cough troublesome at night, with little expectoration. Skin hot. He wanders much in the night, and is scarcely sensible in the day.

19th. Skin over the sacrum sore with lying. He still appears very low, and the purging continues. Ordered to have half a pint of wine daily.

Habeat Mist. Cretæ cum Confect. Aromat. si opus fuerit. Repetatur Infusum Serpentarii cum Ammon. Subcarb., et Repetatur Pilula.

20th. Rambles occasionally. Countenance decidedly improved, still anxious: takes much nourishment. Motions much improved: temperature moderate. Pulse 112, weak. Cough rather less troublesome; still hoarse. Tongue cleaner and moister.

26th. He improves, but is tired of his medicine.

Habeat Infus. Cascariillæ cum Conf. Aromat. sexta quaque hora.

29th. Goes on gradually, but slowly improving. Voice less hoarse. Bowels still relaxed. Appetite returning: takes animal food in small quantity. Sores on sacrum not spreading.

Jan. 2nd. Pulse 96, soft. Countenance natural, almost free from distress. Voice returned. Still coughs at night. Tongue moist and clean. Bowels more regular, but still relaxed. Appetite good. Sores healing.

Repetantur Infusum et Vini rubri fʒviij.

6th. Sitting up. Still a slight cough, but in every respect much improved. He proceeded on the same plan, with a very slow convalescence. He often complained of some pain on the left side of the head, and deafness, and January 17th an abscess burst in that ear. He complained much of pain shooting inward, and after a time the pupil on that side was occasionally much more sluggish than on the other. An obvious swelling arose behind the ear, which was punctured with a lancet, and discharged about eight ounces of pus. This was a second time opened, and at length he was dismissed at the end of April quite well.

In this case we have fever complicated with pneumonic affection in the first place, with irritation of the bowels, which I have no doubt was accompanied by ulceration of the mucous membrane, and with delirium, which however was for the most part of a low character. It was one of those cases which required careful adaptation of remedies; and the convalescence was retarded greatly by the sores from lying, and by the extensive suppuration communicating with the ear, which at one time threatened strongly to lead to organic cerebral affection.

CASE XC.

E. S., a young man about 20 years of age, was admitted into the Clinical ward, under my care, March 27th, 1827. It appeared that about ten days previously, after taking purgative medicine, he had exposed himself to cold, which brought on diarrhœa; and this was followed by severe headache, and attended by lassitude, watchfulness, quickened pulse, and heat of skin. When first seen, on the 27th of March, after the febrile symptoms had existed about five days, he was very talkative and restless. Pulse 108, thready. Tongue furred in patches, and glassy. His abdomen was tense, and his stools frequent: his whole aspect that of confirmed and somewhat advanced fever.

Habeat Hydrarg. Submuriat. gr. $\frac{1}{2}$ quarta quaque hora.

March 28th. The restlessness and hurried manner still continue, and the other symptoms the same.

Applicetur Empl. Cantharidis Nuchæ.

Sumat Hydrarg. Submuriat. gr. $\frac{1}{2}$ cum Mistura Cretæ quarta quaque hora.

29th. Abdomen less tense; not painful on pressure. A little sleep this morning. Pulse 104, more full. Tongue rather moister, but red, glazed, and deeply cracked along the centre. Two bloody dejections, loose with gritty-looking sediment. Gums a little sore. Mouth clammy.

31st. Tongue still red and clammy, sulcated, and a little furred posteriorly. Pulse 116, not very compressible; slept tolerably. Four lax bloody dejections. Urine thick and high coloured.

Applicentur Hirudines decem abdomini, et foveatur abdomen postea.

R Hydrarg. cum Creta gr. iij,

Pulver. Ipecac. gr. j,

Pulver. Cretæ comp. gr. x;

Fiat pulvis ter quotidie sumendus.

April 1st. Bowels in same state. Leeches bled well. Tongue moist and natural. Pulse 120. Respiration 32. Cough frequent, without pain.

Rep. et Foveatur abdomen.

3rd. Still a preternatural quickness and earnestness of manner. Little sleep. Four loose bloody dejections, with a good deal of gritty feculent matter. Occasional pain at the umbilicus. Tongue still clammy, deeply sulcated, with yellowish fur. Lips black. Teeth covered with sordes. He has always expressed a morbid desire for food, but nothing has been allowed him but cool drinks and occasionally a little cool beef-tea. Gums still a little tender. Pulse 114. Skin dry and hot.

Habeat Mist. Cretæ post singul. sedes liquidas.

Rep. Pulv. et foveatur Abdomen.

4th. Little sleep during night, but he sleeps a good deal in the day. Pulse 108, quick in the beat. Mouth clammy. Tongue glassy and sulcated. Teeth and lips covered with sordes. He has a constant though but slight pain below the umbilicus. Three watery dejections, with considerable gritty sediment but no blood. Slight deafness.

Adde Pulver. Ipecac. compos. gr. ij, singulis dosibus misturæ.

5th. Much the same. Three very offensive watery dejections, with clots of blood. Deafness increased.

6th. Several watery dejections, without blood. Still shrinks from pressure on the abdomen.

Applicentur Hirudines decem regioni iliacæ dextræ.

7th. An indifferent night. The leeches bled well. Tongue clammy, and inclined to be dry. Teeth and lips cleaner. Eyes dull. Countenance emaciated. Five dejections, improved in colour and without blood. Pulse 100. Skin hot. Less agitation in his manner.

Habeat Misturam Cretæ pro re nata.

Adde Pulver. Ipecacuanhæ comp. gr. iij singul. pulv.

He is ordered to have Sago, Arrow-root, and Beef-tea.

9th. Feels better. Countenance improved. Dejections much improved. Skin more natural. Urine turbid.

10th. Passed a very good night, and feels stronger. Tongue moister, paler, and the cracks beginning to heal. Pulse 92, full. Skin dry. He is not thirsty. Urine in good quantity, but is still high coloured. One very scanty dejection.

Habeat statim Olei Ricini fʒiij cum Tincturæ Opii ʒiv.

11th. Three dejections from the Castor Oil, without any blood. He feels himself better, and complains of hunger.

12th. Tongue still furred and clammy.

14th. Several lax pale offensive dejections. Pulse 100, with considerable action. Face a little flushed.

Sumat Olei Ricini fʒiij cum Tincturæ Opii ʒiij statim.

16th. Feels better. Tongue white. Three or four lax bilious dejections. Skin cool. Sleeps well. Appetite good. Pulse 96.

17th. Dejections very much improved. Tongue moister, and less white.

R Sulphat. Quinæ gr. j,

Infus. Rosæ fʒifs.

Fiat haustus sexta quaque hora sumendus.

Omitt. Pulveres.

19th. Tongue nearly natural. Pulse 94, small. Three dejections. He feels much stronger. He has lost the profuse perspiration from which he had latterly suffered. Sleeps well, and his appetite is good.

23rd. He sat up yesterday for an hour, and felt no inconvenience. He likewise began to take some fish. His countenance is improved.—From this time he went on improving, and left the Hospital on the 1st of May perfectly convalescent.

The early history of this case would allow us to doubt the propriety of considering it as simple fever; but whatever might have been its origin, the symptoms were so unequivocally the same which occurred in the other cases which we could not hesitate to class as such, that no line can be drawn between them. It scarcely admits of a doubt, that in this case both the ilium and the colon had suffered from ulceration, and it was to the abdomen that almost all the remedies had immediate reference. As the disease advanced, the careful employment of opiates was attended with decided benefit; and at this period the occasional use of Castor Oil to prevent unhealthy accumulations assisted very much, when it was so administered as not to excite irritation. As the tongue became moist and lost its unnatural cracked and arid appearance, the Sulphate of Quinine in conjunction with a more generous diet proved peculiarly suited for

intestines recovering from such severe mischief, and which might have been most materially injured by the irritation of the bark.

I might multiply cases of fever bearing the peculiar characters illustrated in the eleven foregoing cases, and recovering under the same treatment, to a very great extent; but it would be little more than needless repetition, as I become every day more and more convinced that the treatment of these cases cannot be too simple; and that when the practitioner is once fully impressed with the importance of those changes which are going on in the intestines, he will be guided by the symptoms in the daily application of his remedies, and will never be deterred from the great object of allaying the irritation of the lining membrane of the bowels and improving its secretions, whatever other indications he may be obliged at the same time to pursue,—whether to overcome formidable inflammation, to quiet general febrile action, or to support the exhausted powers of the system. There is one point of very great importance which should likewise be carefully borne in view, and that is the great danger of relapse unless the means are continued till the cure is complete, and the consequent necessity of continuing the use of the alterative treatment even after the period of apparent convalescence: and as it is quite impossible to say what ravages may have been committed by the disease on the membrane of the bowels, it is impossible to point out the time necessary for its perfect repair. I have no hesitation in saying that in Case LXXXV. the ulceration of the bowels was not perfectly healed for many weeks, and the patient had a relapse of symptoms with pain in the right iliac region, diarrhoea, and slightly bloody evacuations, above six weeks after he was able to go into the country as convalescent.—It is our duty in all these cases to enjoin the strictest attention to diet and to the state of the bowels for at least three months after recovery; for it is quite consistent with what we know of this disease, to believe it possible that for that time at least, some one of the ulcers may not be healed, and an injured portion of the peritoneum may be the only barrier between the intestinal canal and the cavity of the abdomen.



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N.B. When in the foregoing pages any preparation is mentioned which is not found in the London Pharmacopœia, it is adopted from the Pharmacopœia of Guy's Hospital,—a work which contains many excellent formulæ for public practice.



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